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AMERICAN
JOURNAL OF ARCHAEOLOGY

Second Series

THE JOURNAL OF THE ARCHAEOLOGICAL
INSTITUTE OF AMERICA

VOLUME XVI

1912



NORWOOD, MASS.

PUBLISHED FOR THE INSTITUTE BY

The Norwood Press

NEW YORK: THE MACMILLAN COMPANY

LONDON: MACMILLAN & CO., LTD.

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American Journal of Archaeology

SECOND SERIES

THE JOURNAL OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA

Vol. XVI, 1912

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Volume XVI

1912

Number 1

JANUARY — MARCH



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PUBLISHED FOR THE INSTITUTE BY

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NEW YORK: THE MACMILLAN COMPANY

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AMERICAN BOOK COMPANY

NEW YORK

CINCINNATI

CHICAGO

AMERICAN
JOURNAL OF ARCHAEOLOGY
Second Series

THE JOURNAL OF THE ARCHAEOLOGICAL
INSTITUTE OF AMERICA

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A NEW COLLEGIUM AT ROME

INSCRIPTIONS FROM ROME

THE ANNUAL MEETING OF THE INSTITUTE

ARCHAEOLOGICAL NEWS (July-December, 1911)

NORWOOD, MASS.

PUBLISHED FOR THE INSTITUTE BY,

The Norwood Press

NEW YORK: THE MACMILLAN COMPANY

64-66, FIFTH AVENUE

LONDON: MACMILLAN & CO., LTD.

Annual Subscription, \$5.00

Single Numbers, \$1.50

PUBLISHED QUARTERLY

Norwood Press
J. S. Cushing Co. — Berwick & Smith Co.
Norwood, Mass., U.S.A.

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THE PAINTINGS OF THE GROTTA CAMPANA

THE earliest mythological representation in Etruria is to be found, according to Petersen, in one of the four archaic paintings which decorate the Etruscan chamber-tomb near Veii known as the Grotta Campana.¹ The fresco in question (Fig. 1) depicts a rider with two attendants on foot, one of whom walks beside the horse, holding the animal's rein, while the other is in advance of the party, with a double axe on his shoulder; on the croup of the horse behind the rider sits a leopard or panther, and under the horse is a dog.² Petersen maintains that this represents a well-known subject, the return of Hephaestus to Olympus under the escort of Dionysus. This theory, which, as far as I can learn, has not been discussed in print, seems to me untenable, and I should like to present the case against it and in favor of another interpretation of the picture.

What is there in the Veian painting to suggest the return of Hephaestus? Little but a slight general similitude resting on the fact that it portrays a rider under escort. The only argument that can be brought for the identification of the rider with Hephaestus is the presence of a double axe in the picture, and the panther is the only conceivable indication of the Dionysiac rout. Though the double axe is frequently an attribute of Hephaestus, it is not confined to him,³ and here, moreover, we find it in the hands, not of the supposed Hephaestus, but of an attendant. Nor is the appearance of the panther in archaic art restricted to Dionysiac scenes; it occurs also in association

¹ *Über die älteste etruskische Wandmalerei*, Röm. Mitt. 1902, pp. 149 ff.

² Micali, *Monum. ined.* I, LVIII; Canina, *Veii*, XXXI; Dennis, *Etruria*, p. 34; Martha, *L'art étrusque*, p. 422. In the photograph by R. Moscioni (4560) little is distinguishable.

³ See below, p. 7, note 1.

with other deities and even with ordinary mortals.¹ In fact, our picture, which cannot be later than the beginning of the sixth century,² and in its original conception is probably still earlier, is much older than any known representation of the panther in connection with Dionysus,³ and also older than any



FIGURE 1. — PAINTING IN THE GROTTA CAMPANA (Martha, *L'Art Étrusque*, p. 422).

known representation of the return of Hephaestus.⁴ Consequently other proof is needed before we can admit that either Dionysus or Hephaestus is present, and there is none to show. Nothing in the limning of any member of the party suggests in the least that he is a god and not a mortal. The only noteworthy feature of the rider is his smallness of stature, which Petersen seeks to parallel among the illustrations of the Hephaestus myth. But this proves nothing at all, for such dispro-

¹ Panther and Athena, Gerhard, *Auserl. Vasenb.* pl. 141, 2; with Nereids, *ibid.* pl. 113. For the panther in genre scenes see below.

² The earliest interment in the Grotta Campana seems to have been about contemporary with the graves surrounding the Regulini-Galassi tomb; it would date, therefore, approximately 600 B.C., since according to Pinza the Regulini-Galassi tomb dates about 625 (*Röm. Mitt.* 1907, pp. 35 ff.). The preparation of the paintings is not likely to have been much prior to the first interment.

³ The panther first begins to be associated with Dionysus on the Cyrenaic vases (Keller, *Thiere*, p. 150); it does not become his constant companion until the fifth century (Reinach, *Mon. Piot*, IV, p. 110).

⁴ Petersen, *l.c.* p. 152.

portion between horse and rider is frequent in archaic art.¹ The two attendants are certainly not satyrs; are they Dionysus and Hermes? There is nothing to indicate it, or even to distinguish one from the other. On the contrary, in all these figures the artist has done his best to show that he is painting men and not gods, for he has represented them beardless and naked.²

To extenuate the scantiness of this evidence it helps but little to cite instances in which a rendition of the myth lacks this or that detail, for none can be adduced that lacks so many of the usual features and has so few. Nor does Petersen further his case by the assertion that the Etruscan painter who copied this scene from a Greek original is responsible for extensive alterations.³ This assumption comes perilously near to begging the question, since the alterations which it postulates are so thoroughgoing as to deprive the picture of all certain means of identification; and it is purely gratuitous, for neither in this fresco nor in any of its companions is there anything to indicate such procedure. On the contrary, what evidence there is appears to show that the copyist followed a very different method; he erred through over faithfulness rather than the reverse.⁴

Clearly the theory that our picture represents the return of Hephaestus rests on a very insecure basis. In my opinion there is much more reason to believe that we are dealing with ordinary mortals, and that the subject is nothing but a hunting scene. To such an explanation there can be only one serious objection, — the presence of the panther. Petersen says that this animal is certainly not a mere ornament, and he is right. But I see in the beast not the attribute of a god, but the plaything of a man; a tame animal, used in the chase and trained to ride behind his master.

¹ Strikingly similar in this respect are the mounted figures on a very old stone relief from Prinia in Crete (Karo, *Arch. Anz.* 1908, p. 123) and an ivory situla from Chiusi (Collignon, *Mon. Piot*, IX, pl. I).

² Petersen himself calls them *typische Jünglingsfiguren*, but maintains that they have been changed by the Etruscan copyist. See the next note.

³ "Das Misverständniss des etruskischen Malers, der aus dem führenden oder begleitenden Hermes oder Dionysos typische Jünglingsfiguren gemacht hat, und statt eines Maultiers oder Esels dem Gott ein Ross gab" etc. (*l.c.* p. 152).

⁴ See below.

The taming of leopards for use in hunting is a practice which has been followed in the East from time immemorial. According to Sir William Jones, Persian records ascribe its origin to the reign of King Hushing (865 B.C.);¹ but it can be traced much further back than this, for there is evidence to show its existence in Egypt under the seventeenth and eighteenth dynasties.² From the Orient the practice became known to classical antiquity, as Keller has shown in his well-known work on animals.³ Tame leopards, usually in leash, are not infrequently represented in early Greek art, the first instance being the Cyrenaic vase known as the Arkesilas cylix, on which a leopard with a collar about his neck sits under the chair of King Arkesilas.⁴ There is another work of art approximately contemporary to the Arkesilas cylix which has escaped Keller's notice, and which shows us a hunting-leopard in action.⁵ I refer to an archaic ivory relief of Ionic character in the Museo Gregoriano, belonging to a series which Pollak dates in the middle of the sixth century B.C. and assigns to a Cypriote origin.⁶ It represents a hunter throttling a stag; at the same moment the stag is being bitten in the belly by an animal which Pollak calls a *hündinähnliches Thier*, but which is certainly a

¹ *Encycl. Brittan.* s.v. *Cheetah*.

² Keller, *Antike Tierwelt*, I (*Säugetiere*), p. 86.

³ *Thiere des class. Alterthums*, pp. 145, 154; cf. *Ant. Tierwelt*, l.c. To the evidence collected by Keller we may add an archaic terra-cotta whistle from Rhodes in the Boston Museum (unpublished; cf. *Arch. Anz.* XXII, p. 396), the body of which is formed by a leopard wearing a leash. The animal is called a cat in the notice just cited, but the leash and the fact that its hide is spotted (ascertained through the kindness of Mr. L. D. Caskey) certify that it is a leopard. See also the late silver cup published by Graeven, *Jb. Arch.* I, XV, p. 203.

⁴ Babelon, *Cab. des Ant.* pl. XII. In the interpretation Puchstein (*Arch. Zeit.* 1880, p. 185) and Reinach (*Mon. Piot*, IV, p. 113) are agreed. Another Cyrenaic cup (*Arch. Zeit.* 1881, pl. 13, 5) shows a dog similarly seated under a man's chair.

⁵ The only classical testimony adduced by Keller for the use of leopards in the chase comes from Aelian (*Nat. Anim.* XVII, 26), who remarks on the employment of "lions" (ἀλλ' οὐχ οἱ μέγιστοι) in this way; from Luxorius, who saw hunting-leopards at work in the Roman amphitheatre in the sixth century A.D. (*Anth. Lat.* 514), and from the anonymous tractate *De Monstris* (Phaedrus, ed. Robert, *App.* p. 157; Haupt, *Opusc.* II, p. 229), where their employment is ascribed to certain fabulous "bearded huntresses."

⁶ *Mon. Ant.* VI, 46, 3; Pollak, *Röm. Mitt.* 1906, pp. 314 ff., pl. XVI.

she-panther. Pollak's indecisive description was probably influenced by the consideration that in a hunting scene a dog was to be expected; but the small, oval head, the long, low body, the long, sinuous tail, and in general the pose and carriage of the animal, bespeak a member of the feline race. It may be added, too, that she-panthers are frequent on Ionic monuments, whereas she-dogs are rare.¹ That the hunter has wings on his back and feet does not proclaim him a supernatural being, but merely symbolizes the swiftness of his motion, as Pollak demonstrates by comparison with other Ionic works of art.² I do not hesitate, therefore, to cite this relief as evidence for the use of panthers in hunting.

The notion of carrying a hunting-leopard on the back of a horse may well appear somewhat singular, especially in view of the fact that in modern India cheetahs are ordinarily conveyed to the field in enclosed wagons; but the existence of such a custom in the East is well attested. Marco Polo observed it at the court of the Great Khan.³ "The Khan himself goes every week to see his birds sitting in mew, and sometimes he rides through the park with a leopard behind him on his horse's croup, and then if he sees any animal that takes his fancy, he slips his leopard at it, and the game when taken is made over to feed the hawks in mew. This he does for diversion." Marsden in his note on this passage quotes from the *History of Quadrupeds* to the following effect: "The ounce is common in Barbary, Persia and China; is much more gentle than the leopard, and like the hunting-leopard is sometimes trained to the chase. Instead of being conveyed in a waggon, it is carried on the crupper of the horse, is as much under command as a setting-dog, returns at a call and jumps up behind its master." The custom, which appears to have been widespread, was even introduced into Europe by the Emperor Frederick II,⁴ and in Renaissance art we find illustrations of it which form an

¹ The two bitches on the sarcophagus from Clazomene in Berlin (*Ant. Denkm.* II, pl. 58; cf. Zahn, *Jb. Arch. I.* 1908, pp. 169 ff.) are the only examples known to me, and they are characterized very differently.

² *I.c.* p. 325; see also Brunn, *Kleine Schriften*, I, p. 328.

³ Yule (second edition), I, p. 290 (Book I, Chap. LXI).

⁴ See the notes in the Yule-Cordier edition of Polo.

interesting comparison with the fresco in the Campana tomb.¹

According to Colonel Yule, Arabian writers say that leopards were first carried to the field in this manner by the Khalif Yazid, son of Moahwiyeh, whose date is approximately 680 A.D. This tradition is interesting as evidence for the long duration of the custom, but it must not be interpreted too literally. Eastern customs are persistent, and it is more than likely that Yazid simply reintroduced at court a practice that had fallen into disuse during the austere rule of the immediate successors of the Prophet. But even if the custom was not continuous, it may well have suggested itself at different times through the ages to various peoples that rode horseback and kept tame leopards. To such peoples the idea would be a natural one, for the beast would have to be carried to the field to save its strength for the chase, and there would be no other way to carry it conveniently.

Apart from the fresco under discussion, an indication that the custom was known in antiquity is perhaps afforded by a vase of *bucchero sottile* in the Berlin Museum, on which is engraved in a style resembling that of our painting a bridled horse with a leopard standing on his back.² Since the animal is obviously not attacking the horse, and since the horse wears a bridle, there is some ground for believing that we have here another picture of a hunting-leopard. It is worth noting, too, that representations of an ape carried behind a horseman in this manner are furnished us by a pitcher from Tragliatella (a rude copy of an Ionic model, roughly contemporary with the Grotta Campana paintings) and by a fibula from Este.³

In view of these considerations it seems to me entirely reasonable to call our animal a hunting-leopard. Such an inter-

¹ In the background of Gentile da Fabriano's *Adorazione dei Magi* and of Benozzo Gozzoli's treatment of the same theme in the Palazzo Riccardi. There is also a fine print by John Stradanus (P. Lacroix, *Mœurs, Usages et Costumes au Moyen Age*, etc., p. 205, Fig. 141).

² Furtwängler, *Katalog*, 1541; illustrated by Karo, *De arte vascul. antiquiss.* pl. i.

³ The Tragliatella vase is illustrated in the *Annali*, 1881, pls. L and M, the fibula from Este in Montelius, I, pl. 51, 4; see also Hoernes, *Jh. Oest. Arch. I.* I, p. 12; *Urgeschichte*, p. 422, note 1 and p. 479.

pretation accounts for his position on the croup of the horse, which otherwise we should have to consider a mere whim on the part of the painter; it accounts, too, for the object extending from the rider's hand to the beast's muzzle, which is much more likely to be a leash than either a whip, as Micali calls it (which is not carried in this way), or a pair of tongs (which it does not in the least resemble). We have already seen that there is nothing to distinguish the rider and his attendants from ordinary human beings — that, in fact, their dress, or, if you will, their lack of it, proclaims them to be men and not gods. The double axe carried by the foremost figure is certainly appropriate to a hunting-scene,¹ and so is the dog beneath the horse. Heretofore the scene has usually been considered genre in spite of the leopard; there is surely no ground to interpret it otherwise when the leopard can be accounted for on this basis more readily than on any other.

There is only one point which calls for further comment — the appearance of a hunting-leopard on the wall of an Etruscan tomb. In view of the close connection that existed between Etruria and the East, it is quite possible that this method of hunting was introduced thence into Etruria. What actually happened in the Middle Ages, when the bonds of union were little if any closer, may easily have happened earlier. But it is not necessary to make this supposition, for our painting and its fellows of the Grotta Campana are not in any sense original creations of a native artist; they are merely copies of a model from overseas.

Barring certain infelicities of execution which may fairly be ascribed to a copyist, there is not a single feature in the Campana paintings which can be called Etruscan. In all essential particulars they are Greek. They are not, however, directly related to the art of Greece proper, but belong to the great sphere of orientalizing Greek culture that, rightly or wrongly, is to-day labelled Ionic. The nature of the ground-

¹ Among the Greeks, to be sure, the axe was a tool and not a weapon. But the Greeks knew that other peoples used it in war; as a barbarian weapon they give it to the Amazons and to the Scythians. As for its use in the chase, a red-figured vase in Naples (Heydemann, 3251) shows us a Phrygian boar-hunt in which most of the participants carry axes.

ornamentation, for instance, is entirely foreign to Corinthian art as we know it in the vases; though it has something in common with the Early Attic and the Melian vases, it finds its nearest analogy in the decorations of the ostrich-eggs found at Vulci and in bronze and silver work of Ionic stamp.¹ Again, in the representations of leopards we find here four different ways of treating the head — one in profile, another in full face, a third turned backward, and a fourth with open jaws and hanging tongue. The multiplicity of types and the presence of the fourth type are characteristic of Ionic art. Another definite Ionic feature is the mane which appears on the back of the last-mentioned leopard and on the back of the Sphinx.² The dog beneath the horse in our picture is a stock subject of Ionic vases and sarcophagi,³ and the armbands of the men and the loin-cloth worn by one of them belong to the orientalizing Greek world.

For the occurrence of Ionic paintings on the walls of an Etruscan tomb there are two possible explanations. They may be either original productions by an imported artist, or copies from an imported model. The hypothesis that Ionic artists lived and worked in Etruria has often been advanced, and, as a general proposition, is entirely probable; but, in this case, I prefer to assume that we are dealing with a native copy

¹ Compare the ornament at the side of the upper left-hand picture (Montelius, *La civilis. primit. en Italie*, II, 2, pl. 354, 3, not illustrated in Martha or Dennis) with the palmette-tree on the paterae from Amathus (Perrot-Chipiez, III, p. 775, Fig. 547), Dali (*ibid.* p. 779, Fig. 548), and Curium (*ibid.* 789, Fig. 552). The "lotus" ornament in our pictures occurs on the ostrich-eggs illustrated *ibid.* p. 857, Fig. 625, and p. 859, Fig. 627; compare also the larnax from the Tomba del Duce in Vetulonia (Montelius, II, 1, pl. 188, Fig. 1 c) and a bronze from Cervetri (*Mus. Greg.* I, xvi).

² It is found on the great lebes-stand from Cervetri (*Mus. Greg.* I, xvii); the gilded cup from Vetulonia (Falchi, *Vetulonia*, pl. x); the Perugia bronze reliefs (*Ant. Denkm.* II, pl. 15, 3); the polychrome bucchero from Vulci (*Journal of Hellen. Stud.* 1894, pl. VII, cf. p. 211 and note 8); a sarcophagus from Clazomene (*Ant. Denkm.* II, pl. 58; Zahn, *Jb. Arch. I.* 1908, pp. 169 ff.); a vase-fragment from Cyme in Aeolis (*Röm. Mitt.* 1888, pp. 164-165); a Caeretan hydria (*Ant. Denkm.* II, pl. 28); and a stone relief from Phoenicia representing a Sphinx (from Aradus; Longpérier, *Musée Nap.* pl. xviii, 4; Perrot-Chipiez, III, p. 129, Fig. 73).

³ It is not, however, confined to the Ionic sphere; see Zahn, *Jb. Arch. I.* 1908, p. 174, note 10.

of an imported model. This is indicated, it seems to me, not only by the general appearance of the frescoes, in which the execution is far inferior to the conception, but by certain particulars in which the sign-manual of the copyist is written large. There are many ineptitudes which can best be explained as misinterpretations of an original which had for some reason or other become partially illegible. These are frequent in the ground-ornamentation,¹ but occur also in the rendition of figures, as, for instance, in the unique treatment of the fore-shoulder of one of the leopards represented.² Again, the copyist betrays himself in the faulty accommodations of the subject portrayed to the space at his command. This comes out most clearly in the picture opposite to the one under discussion,³ in which the peculiar ornament at the side, which resembles a Jacob's ladder, not only far exceeds the legitimate proportions of a space-filler, but at the top crowds and is crowded by the horse's head. The head is disproportionately small, and is so reined in that the face continues the vertical line of the fore-leg and chest, while the ornament itself is so far deflected to the right that its lack of symmetry is very noticeable. To my mind this reciprocal crowding is sufficient in itself to prove that the painter of the Grotta Campana was blindly following a model. After beginning, perhaps, with the figure of the rider and completing that of the horse, he discovered that he had not left enough room for the ornament. Not venturing either to leave it out or to modify it materially, he devised this solution, which discloses to us not only that his picture is a copy, but that it is as faithful a copy as he with his limitations could produce.

Our picture, then, in that it is copied from an Ionic model, is exactly parallel to the Tragliatella vase on which we find a rider with an ape behind him. Its original, like that of the Tragliatella vase, belonged to the same art-world with the Arkesilas cylix and the carved ivory from Cyprus—a world which stood in so close relation to the Orient that the appear-

¹ See especially the lower left-hand picture, *Martha*, p. 424 ; *Dennis*, p. 36.

² In the lower right-hand picture, *Martha*, p. 423 ; *Dennis*, p. 35.

³ *Montelius*, II, 2, pl. 354, 3.

ance of tame monkeys and leopards on its monuments is not a matter to cause surprise.¹

¹ Ionic monuments also exhibit the use of dogs and apparently of lions in war—practices decidedly un-Greek. See Zahn, *l.c.* p. 175, note 12, who collects the bibliography for the use of dogs in war; for the use of the lion, see the sarcophagus from Cervetri in the Brit. Mus. published by Murray (*Terracotta Sarcophagi*, pls. 9-11; *Mon. Piot*, IV, 30).

A. M. HARMON.

PRINCETON.



INSCRIPTION FROM THE TEMPLE OF ARTEMIS AT SARDES. COLUMN I



INSCRIPTION FROM THE TEMPLE OF ARTEMIS AT SARDES. COLUMN II

GREEK INSCRIPTIONS FROM SARDES¹ I

1. THE following inscription came to light in the temple of Artemis on July 2, 1910, at the very end of that year's campaign, but the wall on which it is carved was not completely

¹ Those only which are complete, or nearly so, will be found in this and the following articles. A separate publication of all the inscriptions of Sardes, complete and fragmentary, whether previously published or not, will be issued as soon as the area of the temple of Artemis—the principal site of the present excavations—shall have been entirely cleared. If, as is hoped, the excavations are thereafter continued, inscriptions discovered in other parts of the ancient city will be published as soon as possible after the close of each annual campaign.

One of the present joint editors (W. H. Buckler), having been at Sardes during the seasons of 1910 and 1911, has been able to study all the texts at first hand: the other (D. M. Robinson) was at Sardes in 1910, but was prevented by University work from going there in 1911. The texts not actually seen by him he has studied by means of squeezes, or photographs, or drawings made by his co-editor.

Both writers desire gratefully to acknowledge valuable help received from Professors Mitteis and Rostowzew, and from Mr. D. G. Hogarth, Mr. Walter G. Arkwright, and Sir W. M. Ramsay.

Here follows a list of abbreviated references to the principal books cited:

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Rostowzew, *R.K.* = M. Rostowzew, *Studien zur Geschichte des römischen Kolonates*, 1910.

O.G.I. = Dittenberger, *Orientis Graeci Inscriptiones*, 2 vols., 1903–05.

Syll. = Dittenberger, *Sylloge Inscriptionum Graecarum*, 2d ed., 3 vols., 1898–1901.

uncovered till February, 1911. The text consists of two columns, each complete at the bottom, but effaced at the top by careful chiselling. They are engraved on the inner (south) face of the north wall of the westernmost temple chamber, called by Butler the opisthodomus (cf. second Report, *A.J.A.* XV, 1911, p. 446) or the treasury (*ib.* p. 450). This wall has remained intact as far up as the block bearing our inscription, but above and on three sides of this block all remains of the wall have disappeared (cf. *l.c.* pl. X). The inscribed block is, like the rest of the wall, of white marble, 0.88 m. in height, 2.745 m. in length, and in thickness 0.82 m. at the bottom, 0.95 m. at the top. The height of the various parts can best be stated in the following tabular form, the measurements beginning at the top of the inscribed block and descending to the floor level of the chamber:

| | |
|--|---------|
| Height of surface chiselled | 0.29 m. |
| Height of surface inscribed | 0.36 m. |
| Height of surface left smooth ¹ | 0.04 m. |
| Height of projecting moulding | 0.19 m. |
| Height of inscribed block | 0.88 m. |
| Add height of narrow moulded block | 0.24 m. |
| Height of two courses of marble masonry . . . | 0.89 m. |
| Total height: top of inscribed block to floor . . | 2.01 m. |

The lowest line of the inscription is 1.36 m. above the floor level. Col. I, l. 16 is 0.97 m. long. Except for the break, which has destroyed parts of the top lines of column I, the block is well preserved and the text, as will be seen from the plates, is admirably clear. Regular Ionic alphabet except ΘΠΣ, not *stoichedon*. Letters 0.008 m. to 0.012 m. in height. Date about 300 B.C. Inventory No. A. 10.

COLUMN I

about 36 letters] ἐπερωτήσαντος Χαίρέο[υ.]ε[....]ω[.....]εσε?
 ς καὶ ὕστερον ἐπέκρινέ μοι τὸν οἶκον Ἀντίγονος. ἐπειδὴ νῦν οἱ νεωποῖαι
 τὸ χροσίον τῆς
 παρακαταθήκ]ης τὸ τῆς Ἀρτέμιδος ἀπαιτοῦσιν παρ' ἐμοῦ, ἐγὼ δὲ οὐκ ἔχω
 πόθεν ἀποδώσω αὐτοῖς, ἔστι οὖν
 τὸ καθ' ἐν το]ῦ οἴκου κῶμαι αἶδε (αἰ) καλοῦνται Τοβαλμουρα κώμη ἐν
 Σαρδιανῶι πεδίῳ ἐν Ἰλου ὄρει· προσκύρουσιν δὲ

¹ This space varies from 0.04 m. to 0.065 m., as the lowest lines of the two columns are not quite parallel with the moulding.

- 5 πρὸς τὴν κώ]μην ταύτην καὶ ἄλλαι κῶμαι ἣ καλεῖται Τανδου καὶ Κομβδιλι-
 πια, φόρος τῶν κωμῶν εἰς τὴν Πυθέου
 χ]ιλιαρχίαν τοῦ ἐνιαυτοῦ χρυσοῖ πεντήκοντα· ἔστι δὲ καὶ κλήρος
 ἐν Κιναροα πλησίον Τοβαλμουρα,
 φόρος τοῦ] ἐνιαυτοῦ χρυσοῖ τρεῖς· ἔστι δὲ καὶ ἄλλη κώμη Περιασασω-
 στρα ἐν Μορστου Ὑδατι, φόρος εἰς τὴν
 Σαγ]αρίου χιλιαρχίαν τοῦ ἐνιαυτοῦ χρυσοῖ πεντήκοντα ἑπτά· ἔστι δὲ
 καὶ Μορστου Ὑδατι κλήρος
 ἐν Να[γ]ριοα, φόρος εἰς τὴν Σαγαρίου Κορειδος χιλιαρχίαν χρυσοῖ τρεῖς
 ὀβολοὶ χρυσίου τέσσαρες· ἔστι δὲ
 10 καὶ ἄλλη κώμη ἐν Ἀττοῦδδοις ἣ καλεῖται Ἰλου κώμη, φόρος τοῦ ἐνιαυτοῦ
 χρυσοῖ τρεῖς ὀβολοὶ χρυσίου τρεῖς.
 ἐκ πασῶν οὖν τῶν κωμῶν καὶ ἐκ τῶν κλήρων καὶ τῶν οἰκοπέδων προσκυρόν-
 των καὶ τῶν λαῶν πανοικίων
 σὺν τοῖς ὑπάρχουσιν καὶ τῶν ἀγγείων τῶν οἰνηρῶν καὶ τοῦ φόρου τοῦ ἀργυ-
 ρικοῦ καὶ τοῦ λητουργικοῦ καὶ τῶν
 ἄλλων τῶν γινομένων ἐκ τῶν κωμῶν καὶ χωρὶς τούτων ἔτι πλέον, τῆς δια-
 ρέσεως γενομένης,
 ἐξαίρημα ἔλαβεν Πύθεος καὶ Ἀδραστος ἐν Τ(ο)βαλμουροις αὐλήν, καὶ ἔξω
 τῆς αὐλῆς εἰσιν οἰκίαι τῶν
 15 λαῶν καὶ τῶν οἰκετῶν καὶ παράδεισοι δύο σπόρου ἀρταβῶν δεκαπέντε, καὶ ἐν
 Περιασασωστροις
 οἰκόπεδα σπόρου ἀρταβῶν τριῶν καὶ παράδεισοι σπόρου ἀρτα(β)ῶν¹ τριῶν
 καὶ οἰκέται οἱ κατοικοῦντες
 ἐν τούτῳ τῷ τόπῳ, ἐν Τ(ο)βαλμουροις Ἐφεσος Ἀδράστου, Καδοας Ἀδρά-
 στου, Ἡρακλείδης Βελετρου,
 Τυιος Μανευ Καῖκου, ἐν Περιασασωστροις οἱ κατοικοῦντες Καδοας Αρμα-
 νανδου, Ἀδραστος Μανευ.

COLUMN II

- μὴ ἐξέεστω? μῆ]τε ἐμοὶ μήτε [τοῖς ἐμοῖς ἐκγόνοις μήτε [10 letters]
 μήτε ἄλ(λ)ωι μηθενὲ μηκέτι ἀπολύσασθαι, καὶ ἐάν τις ἐμποιῇται ὑπὲρ τινος
 τῶν κωμῶν ἢ τῶν κλήρων
 ἢ ὑπὲρ τῶν ἄλλων τῶν ὧδε γεγραμμένων ἐγὼ καὶ οἱ ἐμοὶ ἐκγονοὶ βεβαιώ-
 σομεν καὶ τὸν ἀντιποιούμενον
 ἐξαλλάξ(ο)μεν,² ἐὰν δὲ μὴ βεβαιώσωμεν ἢ παρὰ τὴν συγγραφὴν παραβαίνω-
 μεν τήνδε γεγραμμένην
 5 ἐπ[ι] τὰς κώμας καὶ τοὺς κλήρους καὶ τὰ χωρία καὶ τοὺς οἰκέτας ἅπαντας,
 εἰς τὰ Ἀρτέμιδος ἐχέωσαν,

¹ The stone reads ἀρτακῶν.² ἐξαλλάξωμεν is the reading on the stone.

- καὶ οἱ νεωποιοὶ ὑπὲρ τούτων ἐκδικαιούσθωσαν καὶ κρινέσθωσαν πρὸς τοὺς ἀντιποιοιμένους
ὥς ἂν βούλωνται, καὶ ἐγὼ Μνησίμαχος καὶ οἱ ἐμοὶ ἔκγονοι ἀποτείσομεν εἰς τὸ Ἀρτέμιδος
χρυσοὺς δισχιλίους ἑξακοσίους πεντήκοντα, καὶ ὑπὲρ τῶν γεννημάτων καὶ τῶν καρπῶν
ἐὰν μὴ καρπεύσωνται ἐν ἐκείνῳ τῷ ἔτει εἰς τὰ Ἀρτέμιδος ὅποσου οὖν χρυσίου ἄξια ἡ¹ καὶ ταῦτα
10 ἀποδώσομεν, καὶ τῶν οἰκοδομη(μά)των καὶ φυτευμάτων τῶν τῆς Ἀρτέμιδος ἢ ἄλλο τι ὃ τι ἂν ποιήσωσιν ὅσον χρυσίου ἄξια ἡ τὴν ἀξίαν ἀποδώσομεν, μέχρι δὲ ὅσον μὴ ἀποδῶμεν ἔστω ἡμῖν ἐν παρακαταθήκῃ
τέως ἂν ἅπαν ἀποδῶμεν. ἐὰν δὲ τὰς κόμας ἢ τοὺς κλήρους ἢ τῶν ἄλλων τι τῶν ὑποκειμένων
ἐὰν ὁ βασιλεὺς ἀφέλῃται τῇ Ἀρτέμιδι διὰ Μνησίμαχον, τὸ χρυσίον οὖν τὸ ἀρχαῖον τὴν παρακαταθήκην
τοὺς χιλίους τριακοσίους εἰκοσιπέντε χρυσοὺς αὐτοὶ παραχρῆμα ἀποδώσομεν εἰς τὸ Ἀρτέμιδος
15 ἐγὼ Μνησίμαχος καὶ οἱ ἐμοὶ ἔκγονοι, καὶ τῶν οἰκοδομημάτων καὶ φυτευμάτων τῆς Ἀρτέμιδος ὅσον ἂν ἄξια ἡ τὴν ἀξίαν ἀποδώσομεν παραχρῆμα, καὶ ὑπὲρ τῶν γεννημάτων καὶ τῶν καρπῶν
ἐὰν μὴ καρπεύσωνται ἐν ἐκείνῳ τῷ ἔτει εἰς τὰ Ἀρτέμιδος ὅποσον ἂν χρυσίου ἄξια ἡ καὶ ταῦτα
ἀποδώσομεν, μέχρι δὲ ὅσον μὴ ἀποδῶμεν ἔστω ἐν ἐμοὶ ἐν παρα(κα)ταθήκῃ καὶ ἐν τοῖς ἐμοῖς ἐκγόνοις
ἕως ἂν ἅπαν ἀποδῶμεν εἰς τὰ Ἀρτέμιδος· καὶ ἡ πράξις τέως ἂν ἐξ ἡμῶν μήπω γένηται ἐξείναι.

I. TRANSLATION

(COL. I)

. . . Chaireas having made inquiry. . . . and afterwards Antigonus awarded the estate to me. Whereas now the temple-wardens are demanding from me the gold lent on deposit and belonging to Artemis, but I have no funds wherewith to pay it to them, there are then the items of which the estate consists; to wit, the villages named as follows: Tobalmoura, a village in the Sardian plain on the Hill of Ilus, and as appurtenances thereto other villages also: Tandus', as it is called,

¹ For ἡ.

and Kombdilipia; the rent payable by the said villages to the chiliarchy of Pytheus is fifty gold staters a year. There is also an allotment at Kinaroa near Tobalmoura. Its rent is three gold staters a year. There is also another village, Periasasostra, in the River District of Morstas; its rent, payable to the chiliarchy of . . . arius, is fifty-seven gold staters a year. There is also in the River District of Morstas an allotment at Na[g]rioa; its rent, payable to the chiliarchy of Sagarius, son of Koreis, is three gold staters and four gold obols. There is also another village in the district of Attoudda called Ilus' village; its rent is three gold staters and three gold obols. Now from all the villages, and from the allotments and the dwelling-plots thereto appertaining, and from the serfs with all their households and belongings, and from the wine-vessels and the dues rendered in money and in labor, and from the revenues of other kinds accruing from the villages and still more besides these, when the division took place, Pytheus and Adrastus received as their separate property a farmstead at Tobalmoura; and outside the farmstead are the houses of the serfs and slaves, and two gardens requiring fifteen artabas of seed, and at Periasasostra dwelling-plots requiring three artabas of seed, and gardens requiring three artabas of seed, as well as the slaves dwelling at that place: at Tobalmoura, Ephesus, son of Adrastus; Kadoas, son of Adrastus; Heracleides, son of Beletras; Tuius, son of Maneus the son of Caïcus; also those dwelling at Periasasostra, Kadoas son of Armanandes, Adrastus son of Maneus. . . .

(COL. II)

neither to me [nor to my heirs, nor . . .] . . . nor to anyone else any longer the right of redemption. Should any person lay claim to any of the villages or of the allotments or to the other things here specified in writing, I and my heirs will act as warrantors and will oust the claimant. If, however, we shall fail so to act, or if we shall commit any breach of the contract hereby drawn up in respect to the villages and the allotments and the lands and all the slaves, these shall remain the property of Artemis, and the temple-wardens shall on account of the same conduct legal proceedings and obtain

judgment against the claimants in any way that they may see fit; and I Mnesimachus and my heirs will pay to the treasury of Artemis 2650 gold staters; and on account of the produce and of the fruits, should the temple-wardens receive no fruits in that year, we will further pay to the treasury of Artemis such sum in gold as the same may be worth; and the value of the buildings erected and of the lands brought under cultivation by Artemis, or of such other things as the temple-wardens may do, whatever the same may be worth in gold, we will pay; and so long as we shall not have paid, the debt shall constitute a deposit-loan owing by us till we shall have paid the whole amount. Should the king on account of Mnesimachus take away from Artemis the villages or the allotments or any of the other things mortgaged, then the principal in gold of the deposit-loan, namely the 1325 gold staters, we ourselves—I Mnesimachus and my heirs—will forthwith pay to the treasury of Artemis; and the value of the buildings erected and of the lands brought under cultivation by Artemis, whatever they may be worth, we will pay forthwith; and on account of the produce and the fruits, should they receive no fruits in that year, we will further pay to the treasury of Artemis such sum in gold as the same may be worth; and so long as we shall not have paid, the debt shall constitute a deposit-loan owing by me and my heirs until we shall have paid the whole to the treasury of Artemis; and so long as this still remains unpaid by us execution shall be lawful.

II. CHARACTER AND ANALYSIS OF THE INSCRIPTION

Notwithstanding its fragmentary state there can be no doubt that our inscription contains a mortgage deed (συγγραφή, II, 4) in the form of a sale subject to redemption (πρᾶσις ἐπὶ λύσει). The ponderous verbiage with its repetition of legal formulae, and the fact that the verbs relating to Mnesimachus and his heirs are always in the first person, show that this is no mere record or abstract, but a copy of the very document that Mnesimachus executed.¹ Four points mark it as a contract of πρᾶσις ἐπὶ λύσει: 1) The limit fixed to the right of redemption

¹ συγγραφή, in Delphic inscriptions, denotes the original document, as distinct from copies. Cf. Curtius, *Gesam. Abhandl.* II, pp. 394, 408.

(II, 2); 2) The fact that the debt (II, 13, 14), being half of the sum due for breach of warranty (II, 8), must represent the price at which the lands were sold; 3) The fact that the creditor Artemis (I, 3), since she exercises ownership over the lands conveyed (II, 10, 15), must also be the vendee; 4) The fact that the debtor Mnesimachus (I, 3), since he warrants the title to these lands (II, 3, 4), must also be the vendor. These points can exist only where the mortgage is made in the form of a "sale subject to redemption" = *πρᾶσις ἐπὶ λύσει*. Now, regarded merely as a Greek mortgage of about 300 B.C., our text is unique; but as that of a sale subject to redemption it is, so to speak, doubly unique because it acquaints us with a form of mortgage of which no other specimen has yet been discovered. The only epigraphic form in which Greek mortgages have hitherto been found is that of the small landmarks known as *horoi* (Harpocration, s.v. *ὄρος*; Pollux, III, 85), which it was customary to set up on mortgaged lands as public records. While each *horos* gives only a brief notice of the mortgage, it may and often does refer to the original mortgage (*συγγραφή*, *συνθήκη* or *διαθήκη*) as having been deposited for safe-keeping with a third party or in some temple.¹ In the case of ordinary mortgage (*ὑποθήκη*) the forms of *syngraphai* are known, not indeed from inscriptions or literature² — the *syngraphe* in Dem. xxxv, 10, seems of doubtful authenticity — but from the papyri (instances in Mitteis-Wilcken, *Grundz. u. Chrestom. d. Papyruskunde*, II, 2, 1912, pp. 273–284). In the case of sales subject to redemption no *syngraphe* has either survived in literature or been found in the papyri, doubtless because the place of *πρᾶσις ἐπὶ λύσει* was filled in the Greco-Egyptian law of the Ptolemaic period by a somewhat similar legal device known as *ὠνὴ ἐν πίστει*.³ Our inscription, then, is

¹ E.g., *συγγράφως τὰς κειμένας παρ Σώφιλον* (loan without mortgage), Michel, *Recueil*, No. 1362 B.; *διαθήκας τὰς κειμένας ἐν τῷ ἱερῷ τῆς Ἀφροδίτης* (dowry mortgage); *ib.* No. 1370: *κατὰ τὰς συνθήκας τὰς παρὰ Πατροφ[ῶντι]* (sale subject to redemption); *I.G.* XII, viii, 18. Cf. *δίδομεν αὐτῷ φυλάττειν τὰς συνθήκας* — Isocr. *Trapez.* 20, of a loan without mortgage. *συγγραφήν ὑποθήκης* — Oxyr. Pap. VII. No. 1105, l. 3.

² Something can be learned from *I.G.* XII, vii, No. 515, concerning the laws that govern *ὑποθήκη*.

³ Gerhard and Gradenwitz *Philol.* LXIII, 1904, pp. 498–583; E. Rabel, *Sav. Ztschr.* XXVIII, 1907, p. 355; for other references see A. B. Schwarz, *Hypothek*

the first deed,—*syngraphe* as distinct from mere *horos*—of *πράσις ἐπὶ λύσει*, thus far discovered; hence its extraordinary interest from a legal point of view.

So much for the character of this document; now for its analysis. While framed as a sale it is in fact a mortgage; and since its extant clauses resemble, both in substance and in arrangement, those of an ordinary Greek mortgage (*ὑποθήκη*), there can be little doubt that the clauses missing in our text at the top of columns I and II must also have resembled the corresponding parts of an ordinary mortgage. This is the principle on which we have restored, not verbally, but in substance, the missing clauses of our document. We give first a summary of a typical Greek mortgage, marking each clause with a letter which, in the subsequent analysis of our document, will mark its corresponding clauses. The parallels between the typical document and ours may thus readily be traced. We have taken as typical the full papyrus text from Hermoupolis (153 A.D), first published by Vitelli (*Atene e Roma*, 1901, pp. 73 f.), and recently reprinted by Mitteis and Wilcken (*op. cit.* II, 2, 1912, pp. 273–275). The number of lines in each clause is given as they stand in this last publication. Summary of Hermoupolis mortgage—A (10 lines): clause containing date and names of parties. B (5 lines): statement of particulars—amount, duration, etc.—of loan for which mortgage is given. C (7 lines): description of property mortgaged. D (14 lines): granting clause, by which upon debtor's failure to repay loan with interest, immediate surrender of property is promised. E (4 lines): clause of warranty. F (6 lines): clause providing that, in event of loss of the property mortgaged, the debtor shall forthwith pay the full debt with interest, plus all expenses incurred by the creditor. G (3 lines): clause authorizing execution (*πράξις*).

The following facts are deducible from our document respecting the circumstances which led to its being made. Antigonus, whom we cannot hesitate to identify as the famous Macedonian general killed at Ipsus in 301, had awarded to Mnesimachus, probably one of his officers, a large landed estate situated in the *und Hypallagma*, 1911, p. 35, n. 2 to 4; and Wilcken und Mitteis, *Grundzüge und Chrestomathie*, 1912, II, i, p. 135 f.

satrapy of Lydia. In order, we may suppose, to secure working capital for this estate, Mnesimachus had borrowed 1325 gold staters as a deposit-loan (παρακαταθήκη) from the treasury of the Sardian Artemis. On being summoned by her temple-wardens (νεωποῖαι) to pay back this sum, Mnesimachus, unable to find the requisite cash, mortgages to the goddess, *i.e.* conveys to her by a sale subject to redemption (πρᾶσις ἐπὶ λύσει), the lands, slaves, etc., constituting the said estate. Our fragments are parts of a copy of this mortgage deed (συγγραφή).

Analysis of the document: Col. I (*part missing*): The lines erased from the top of this column must have contained (A:) the date and names of the parties, Mnesimachus as grantor and the goddess Artemis as grantee; (B:) a statement, of which the end only has survived in lines 1-3, as to the particulars of the loan of 1325 gold staters and as to Mnesimachus' ownership of the estate (οἶκος) conveyed. This statement must have recited (1) the making of the deposit-loan by the goddess; (2) when and how Mnesimachus had acquired the estate. The loss of this latter recital, of which we have in I, 1-2, only the last phrase, prevents our understanding Chaireas' inquiry in I, 1, the division (διαίρεσις) of I, 13, and the relation to the main estate of the farmstead (αὐλή) in I, 14.

Col. I (*part preserved*): Lines 1-3: This contains the end of the statement (B) above mentioned. Antigonus has awarded the estate to Mnesimachus. Since the latter cannot now repay the deposit-loan — the style here becomes elliptical, and the fact that Mnesimachus must convey the estate is merely implied in οὖν — the properties included in the said estate are to be specified in detail. There follows (C:) a description of these properties (I, 4-18) in two parts. In the first part (I, 4-10) is a list of certain villages (κῶμαι) and allotments (κλήροι) which are not absolutely owned by Mnesimachus. He holds them as tenant of the king (just as often in Persia to-day), subject in respect of each to a fixed rental (φόρος) payable to the king, in whom remains vested what we should call the freehold or fee simple. Not only is the exact annual rental of each village and allotment specified, but also the chiliarchy or collection-district in which it is payable. The total rent-charge amounts to 116 staters 7 obols in gold. In the second part

(I, 11-18) are mentioned a few smaller pieces of land, about fourteen and a half acres in all (see below the note on *σπόρου*, I, 15), and certain slaves, all of which property seems to have been absolutely owned by Mnesimachus. The value of these lands seems to have been less than half that of the above leasehold *κῶμαι* and *κλήροι* (see below, p. 73). The facts here are not quite clear. We learn that in a certain division (*διαίρεσις*), the details of which are lost as above explained, two men, Pytheus and Adrastus, had received at Tobalmoura — one of Mnesimachus' villages named in I, 4 — a farmstead or *αὐλή* (see below, p. 76 f.), outside which were certain peasants' houses, plots of land, and slaves, enumerated by name. This farmstead may perhaps, as belonging to those two men, be excepted from the present conveyance, but we believe that before this date it had passed into the ownership of Mnesimachus,¹ through some dealings described in the lost beginning of this column, and that, with all the other items mentioned in I, 11-18, it is hereby ceded to the goddess. No rental being mentioned in connection with these latter items, we may infer that Mnesimachus owned them outright.

Col. II (*part missing*): The lines erased contained the end of the description of property (C:) above mentioned. This probably included no further lands, but only slaves. Then must have followed (D:) the granting clause, by which all the items described were conveyed to the goddess, in consideration of the 1325 gold staters previously advanced by her, with the proviso that Mnesimachus and his heirs might redeem within a fixed time, after which neither they nor any one else should have the right of redemption. The end of this proviso survives in II, 2.

Col. II (*part preserved*): Lines 2-12, besides the fragment of the above proviso, contain (E:) the clause of warranty (*βεβαίωσις*) whereby Mnesimachus, for himself and his heirs, covenants to defend the goddess against eviction, and in the

¹ The *χωρία* and *οικέται* of II, 5, which are among the things granted, refer to the items of I, 15-18, just as the *κῶμαι* and *κλήροι* of II, 5 refer to the items of I, 4-10. It seems likely then that the farmstead (*αὐλή*) was also owned by Mnesimachus, for it is difficult to see why Pytheus and Adrastus should still have kept at Tobalmoura that one building only.

event of their failure to do so or of any other breach of covenant on their part, agrees to the following conditions: (1) All the items conveyed shall remain the property of the goddess; that is, the right of Mnesimachus to redeem them shall be forfeited. (2) The temple-wardens shall control as they may see fit all legal proceedings taken against the evicting parties. (3) Mnesimachus or his heirs shall pay to the temple treasury 2650 gold staters. This sum, equal to twice the purchase money (*i.e.* the deposit-loan), represents the *poena dupli* exacted from a vendor who allowed his vendee to be evicted. (4) Mnesimachus or his heirs shall indemnify the goddess for any income that she may lose in the year in which eviction shall have occurred, as well as for her outlays on buildings, plantations, etc., which the temple-wardens may have made while she was in possession. (5) The money due for these indemnities shall, until paid in full, be regarded as a deposit-loan owing by Mnesimachus and his heirs to the goddess. The reason for this provision, to be more fully explained below, is that by being clothed in the deposit form, these debts become equipped with a *poena dupli*. Next comes (F:) the clause providing against contingent loss of the lands conveyed (II, 12-19). Apart from eviction through the fault of the grantor (already dealt with in II, 2-12), such loss could happen in one way only — through confiscation by the crown, which would cancel the goddess' title derived from Mnesimachus. The king, it should be remembered, still held the freehold of the more valuable lands mentioned in I, 4-10. In the event of such confiscation, the following provisions take effect: (1) The principal of the deposit-loan shall at once become due and payable. (2) Mnesimachus or his heirs shall at once indemnify the goddess for her outlays on buildings, etc., as well as for any income lost in the year in which confiscation shall have occurred. (3) All the above debts shall be regarded as deposit-loans owing to the goddess. Last of all comes (G:) the clause of execution ($\pi\rho\acute{\alpha}\xi\iota\varsigma$, II, 19) providing that, until payment in full of all the debts above mentioned ($\acute{\alpha}\pi\alpha\nu$ is to be supplied before $\gamma\acute{\epsilon}\nu\eta\tau\alpha\iota$), the goddess may at any time levy execution on Mnesimachus or his heirs. Here ended this deed of $\pi\rho\acute{\alpha}\sigma\iota\varsigma$ $\epsilon\pi\iota$ $\lambda\acute{\upsilon}\sigma\epsilon\iota$, as comparison with the typical mortgage shows.

The closeness with which our text corresponds to clauses C, E, F, and G of that mortgage justifies us in thinking that the missing text must have resembled its remaining clauses A, B, D. Hence, if our restoration as above given is in substance correct, the missing text can scarcely have occupied more than ten lines at the top of each column.

III. DATE OF THE DOCUMENT¹

The points bearing on the date of our document are as follows: (*a*) It deals with a Lydian estate which, at some time prior to that date, was awarded to Mnesimachus by Antigonus, king from 306 to 301 B.C. (*b*) The allotments of land (κλήροι) forming part of the estate are still owned by this same Mnesimachus (I, 6, 8; II, 2, 5). (*c*) In tracing his title to the estate, the document mentions no grant or other event subsequent to that award by Antigonus (I, 2). (*d*) At the date in question Lydia is governed by a king (II, 13): (*e*) The style of script is that of the end of the fourth century B.C.

The inscription can scarcely have been composed after 301 in the reign of Lysimachus, still less after 281 in that of Seleucus, because it fails to mention any grant or confirmation by either of these kings of the allotments obtained from Antigonus. As to such allotments in Asia Minor, we have only the meagre information found here and in *O. G. I.* No. 229, ll. 100-102 (about 240 B.C.). But, though we lack direct evidence respecting their tenure, we may safely assume that it was similar to that of the κλήροι granted in Macedonia by Philip, Alexander, and their successor, Cassander (*Syll.* No. 178, about 300 B.C.), and in Egypt by the early Ptolemies. When a change of dynasty took place in Macedonia, the new king had the right to resume possession of all κλήροι given by his predecessors (Rostowzew, *R. K.*, p. 252); and in Egypt, even without dynastic change, the early Ptolemaic κλήροι reverted to the crown domain on the death of the king who had given them (*ib.* p. 11; Meyer, *Das Heerwesen der Ptolemäer*, p. 41). Thus,

¹ We advisedly do not say "date of this inscription," because there is the obvious possibility that the document was not carved on the wall of the temple until five or ten years after it was drawn up, at a time when the period of redemption had expired and it was thus no longer a mere mortgage but an actual title-deed.

both in Macedonia and in Egypt, the owner of an allotment could not keep it after a change of dynasty, unless the new king confirmed his title. The same rule doubtless applied to allotments in Asia Minor. Our *κληροί*, awarded to their owner by Antigonos, who was the head of a new dynasty, must also have been granted or confirmed by him to that owner; and having been so granted or confirmed, they could not still have been held by the same owner, under Lysimachus, who succeeded Antigonos as the head of another new dynasty, without a fresh confirmatory grant from Lysimachus. Had such a grant been made by Lysimachus it could scarcely have failed to be mentioned in our document, the foregoing analysis of which will have shown that there was no place other than I, 2 where such mention could have been inserted. The clause ending in I, 2 summarized, down to the date of the document, the recent events affecting the title to the estate, and the comprehensive word 'afterwards' (*ὕστερον*) implies that this series of events had closed with Antigonos' award. Thus the silence of our document respecting any confirmatory grant to Mnesimachus of the *κληροί* obtained by him from Antigonos raises a strong presumption that, when it was composed, Antigonos was still ruler of Sardes, that the king of II, 13 was he, and that the document must be dated not only before his death in 301, but before 303, when Sardes and its surrounding country (though not its citadel, Diod. XX, 107, 5) passed out of his control. Any argument from silence, like that here stated, must be somewhat unconvincing, especially in the case of a document having so rough a style as ours, and such anacolutha as that in I, 3-4. Some scholars may therefore prefer to take *ὁ βασιλεύς* as referring to Lysimachus, and to place the date as late as 301-281. To us, however, it appears safer, in view of the above argument, to date our document before 303 B.C.¹

Now prior to 303 B.C. there are two periods which the reference to "*the king*" compels us to exclude from consideration. From 322 to 317 there were two kings, Philip and Alexander,

¹ Professor Eduard Meyer, in a letter which he very kindly wrote us concerning the date, was inclined to place the inscription about 300 B.C., and to understand *ὁ βασιλεύς* as Lysimachus. Sir W. Ramsay was at first inclined to give an even later date, but now prefers our view.

who were always referred to as οἱ βασιλεῖς (Diod. XVIII, 36, 6 ; 39, 7 [322 B.C.] ; XIX, 12, 1 [317 B.C.] and *passim* ; and in inscriptions, e.g., Michel, No. 363, ll. 7, 27). From 311 to 306 there was in Lydia no king at all, for after the killing of Alexander in 311 (Diod. XIX, 105, 3), Antigonos, though king in all but name (Diod. XIX, 105, 1 ; Haussoullier, *Études sur l'hist. de Milet et du Didymeion*, p. 17), did not assume the royal title until 306.

Thus there remain three periods only, from the Macedonian conquest of Lydia in 333 down to 303, in which "the king" could have been mentioned. In 333-323 he would have been Alexander the Great, in 317-311 Alexander the son of Roxane, in 306-303 Antigonos. In which of these three periods must our document be placed ?

It can scarcely be dated before 323, because Antigonos, who was satrap of Phrygia till that year (Arr. I, 29, 3 ; Curt. IV, 1, 35, who says *Antigonos, praetor Alexandri, Lydiae praeerat* is mistaken), could not well before then have made awards in Lydia, which was governed by its own satraps, Asander (Arr. I, 17, 7) and Menander (Arr. III, 6, 7 ; VII, 23, 1). Moreover, the right of rendering an award or arbitral decision (ἐπίκρισις), when exercised by a single individual, appears to have been a royal prerogative (e.g., it was exercised by Alexander the Great, *O.G.I.* No. 2, l. 28 ; by Antigonos, *Syll.* No. 177, l. 50) ; so that during the lifetime of Alexander the Great it seems impossible, not only that Antigonos as satrap of Phrygia should have interfered in Lydian affairs, but that he should have rendered any award of the kind mentioned in I, 2. The use at so early a date as 323 of our *theta* with short crossbar would also have been impossible.¹

Again, our document cannot well belong to the period 317-311, during the reign of the boy Alexander, because Lydia, while in theory subject to him, had in fact no king to whom the reference in II, 13 could have applied. In 319 Antigonos had

¹ In 326 B.C. (*Syll.*² No. 155 = *Syll.*¹ No. 114) this *theta* perhaps occurs ; but this is doubtful. So is also the use of Θ in *Syll.* No. 177 (dating also from the reign of Antigonos, about 303 B.C.). Dittenberger gives Θ, but Le Bas-Waddington, *Ins. d'Asie Min.* III, 86, gives in every case Θ. In *I.G.* XII, 2, No. 526 (date about 301 B.C.) we have Θ, though Dittenberger, *O.G.I.* No. 8, gives Θ ; cf. also *O.G.I.* No. 18, note, and No. 13.

occupied Lydia and had driven out its satrap Clitus (Diod. XVIII, 52, 5); in 318 he had been recognized as an open rebel; in 316 Alexander and his mother were imprisoned (Diod. XIX, 52, 4). The authority in Lydia of the child king was thus so shadowy that a Lydian document drawn up between 317 and 311 could not have ascribed to him, as does ours, the power of confiscating lands not only from Mnesimachus, but from the rich temple of the Sardian Artemis. Such powers of confiscation can have been possessed only by a strong king such as Antigonos was in and after 306.

It is then in the third of the periods above mentioned, 306–303 B.C., that we place the date of our document.

When the award to Mnesimachus took place, probably between 311 or even earlier and 306, we may suppose that Antigonos, though exercising powers virtually royal, had not yet become king. He is, therefore, mentioned without title in I, 2. When, on the other hand, our document was composed, we must assume that he had the royal title, and hence was referred to as *ὁ βασιλεύς*. This distinction exactly corresponds to that drawn in *Syll.* No. 169 (about 306 B.C.), where in l. 9 Antigonos appears without royal title because he did not then bear it, but becomes *ὁ βασιλεύς* in l. 24, because by that time he had assumed it.¹ From the possession of *κλήροι* (= soldiers' allotments) by Mnesimachus, and from the probable identity of the Pytheus of I, 14 with the chiliarch of I, 5, we may infer that Mnesimachus, Pytheus, and Adrastus were officers who had fought for Antigonos, and whom he rewarded (cf. Diod. XVIII, 50, 5) with gifts of Lydian land soon after 311, when he became complete master of all Asia (Diod. XIX, 105, 1). If, after Mnesimachus thus obtained this estate in 311 or after, though it may have been earlier, we allow a period of from seven to three years in which we suppose him to have borrowed the 1325 gold staters, to have spent them, and finally to have made this mortgage, we find that all these facts agree well with the date 306–303. The upper limit, 306, seems to us certain; the lower limit, 303, is, as above explained, less satisfactory, because resting on mere negative evidence.

¹ In later inscriptions after his death Antigonos also appears without the king's title; cf. *O.G.I.* No. 223, 22; *Syll.* No. 197, 17, 28.

The epigraphic style and the spelling, though not inconsistent with a somewhat later dating, agree perfectly with our date 306–303. It is just at the end of the fourth century B.C. that we find the *theta* with short crossbar beginning to appear (cf. *I. G.* XII, ii, No. 526), while the small round *omikron*, the small open *omega*, the *pi* with one short leg, and the *sigma* with nearly horizontal bars are likewise characteristic of this period. Its beautiful execution marks our inscription as belonging to the golden age of Greek epigraphy about 300 B.C. In spelling there are points of resemblance to *Syll.* No. 177 (about 303 B.C.), e.g., *μηθενί* (II, 2), which however is a common Hellenistic form, and *λητουργικοῦ* (I, 12). This latter spelling is said by Meisterhans-Schwyzler, *Gram. der Att. Ins.* p. 37, n. 198, to be in Attic inscriptions a mark of fourth century date, but a third century instance at Pergamum (*Ins. v. Pergamon*, No. 40, l. 15) and a second century example in *Ins. von Magnesia*, No. 98, ll. 17, 58 show that this rule does not hold good in Asia Minor. The spelling then gives no clue to the date.

IV. THE GODDESS ARTEMIS

The frequent mention of Artemis in our inscription was the first evidence that the temple in which it is engraved was dedicated to her (H. C. Butler, *First Report, A.J.A.* XIV, 1910, p. 408). Radet (*Cybébé*, p. 63) had suggested that this might be the case, but in the absence of direct evidence, Curtius' 'Temple of Cybele' (*Abhand. d. Berl. Akad.* 1872, p. 87, Plate vi) was until 1910 the title usually given to the two columns by the Pactolus. Since Artemis bore also the names Cybebe and *Meter* (Strabo, X, 3, 15; Hesych. s.v. Κυβήβης), we may identify our temple — or rather its sacred precinct, for the building now in ruins can scarcely be earlier than 400 B.C. — with the ἱρὸν ἐπιχωρίης θεοῦ Κυβήβης (Herod. V, 102) burnt by the Milesians and Athenians in 499 B.C., with the Μητρὸς ἱερὸν (Plut. *Them.* 31) visited about thirty years later by Themistocles, and with the abode of the Earth Mother, near the Pactolus, to which Sophocles alludes (Γὰ . . . ἅ τὸν μέγαν Πακτωλὸν εὐχρυσον νέμεις . . . μᾶτερ πότνι', *Philoct.* 394–395).

Of the few references in literature to our goddess under the

name Artemis, none is much earlier than 400 B.C. Diogenes, a contemporary of Xenophon, mentions *Τμωλίαν θεὸν* . . . "Ἀρτεμιν (Nauck, *F.T.G.*² p. 777), and *Ἀρτέμιδος βωμός* in Xenophon (*Anab.* I, 6, 7) probably describes, as Radet has suggested, the altar of our temple (Radet, *op. cit.* pp. 53-58). According to Tacitus (*Ann.* III, 63) the city of Sardes in 22 A.D. petitioned the emperor respecting the right of asylum enjoyed by her goddess Artemis.

In inscriptions the earlier names, Cybebe, Cybele, etc., have thus far not been found. The name Artemis appears in a slightly different form with *ι* instead of *ε* as in Timotheus, *Persae*, l. 172, (*Ἀρτιμης*) in the Lydian inscription, far older than our present one, which Dr. Littmann is shortly to publish (see *Second Report, A.J.A.* XV, 1911, pp. 448, 458). Ours is, however, the earliest Greek inscription in which the Sardian Artemis is mentioned. The next in age, *O.G.I.* No. 225 (about 250 B.C.) provides (l. 29) that a stele shall be set up at Sardes *ἐν τῇ ἱερῇ τῆς Ἀρτέμιδος*. Then we have an inscription of Roman date in honor of the priestess of *Ἀρτεμης Σαρδιανῇ* (*C.I.G.* 3459). Lastly, some Greek inscriptions of imperial times, found in 1911 and to be published in our next article, mention the cult *τῆς θεοῦ* or *τῆς Ἀρτέμιδος*, and one of them, dated by the name of the proconsul, proves that this cult was flourishing in the second quarter of the second century A.D. These citations from books and inscriptions tend to show that the names Cybele, Meter, etc., were not used after the fifth century B.C., and that thereafter the name Artemis, used by Lydians as well as by Greeks, came to be the only one borne by the Sardian goddess.

We have purposely omitted from our citations the passages from Berosus and Pausanias, which in Radet's opinion (*op. cit.* p. 96) refer to our goddess, but of which one only, that of Berosus, is definitely connected with Sardes. Berosus (fr. 16, *F.H.G.* II, p. 508 f.) records the erection at Sardes about 390 B.C. of an image of Anahita. Radet (*op. cit.* p. 65) believes that this erection took place in our temple, and that the cult of Anahita had been introduced there so long before 390 that the Sardian goddess had by that time become completely merged in the Persian. While it cannot be doubted that the very

name of the goddess, Artemis Anaïtis, or "the Persian" Artemis, points to a fusion of the Persian Anahita with the Lydian Artemis at certain places such as Hypaepa, Hierocæsareia (Paus. V, 27, 5) and Philadelphia (*C.I.G.* 3424; cf. Paris in *B.C.H.* VIII, 1884, p. 376) we feel that as to Sardes the theory of such syncretism must be received with caution. The facts thus far known as to the cult of our Artemis, to be more fully dealt with in our next article, do not, so far as they go, tend to support Radet's view. Hence we do not think it probable that the image of Anahita, erected according to Berosus by Artaxerxes II, had any connection with the cult-image of our goddess.

V. THE PROPER NAMES

The proper names in the inscription, many of which are peculiar to Lydia and Asia Minor, are of such philological importance to the students of the languages of Asia Minor, and especially of Lydia, that it seems wise to discuss them together, rather than in the commentary line by line.

The personal names in the inscriptions are :

*Αδραστος (I, 14, 17, 18)
 *Αντίγονος (I, 2)
 Αρμανανδης (I, 18)
 Βελετρης (I, 17)
 *Εφεσος (I, 17)
 *Ηρακλείδης (I, 17)
 Καδοας (I, 18)
 Κάϊκος (I, 18)
 Κορεις (I, 9)
 Μαγεος (I, 18)
 Μνησίμαχος (II, 7, 13, 15)
 Πύθεος (I, 5, 14)
 Σαγάριος (I, 9)
 Τυιος (I, 18)
 Χαιρέας (I, 1)

The names of villages or districts are :

*Αττουδδα (I, 10)
 *Ιλου κόμη (I, 10)
 *Ιλου ὄρος (I, 4)
 Κιναρσα (I, 6)
 Κομβδιλιπια (I, 5)
 Μορστου *Υδωρ (I, 7, 8)
 Να[γ]ριοα (I, 9)
 Περιασασωστρα (I, 7, 18)
 Σαρδιανὸν πεδίον (I, 4)
 Τανδον (I, 5)
 Τοβαλμουρα (I, 4, 6, 17)

NOTE. — Accents and breathings are omitted in the native names, except where there is no doubt and the name is already known.

"Αδραστος. — This Asia Minor name is especially common in Phrygia and is known in Lydia (cf. P.W., *s.v.*; and Roscher, *Lexicon s.v.*; Judeich, *Altertümer von Hierapolis*, p. 95, No. 64; p. 104, No. 95; *C.I.G.* Nos. 2824, 3140, 3216, etc.). According to Ramsay (*C.B.* I, p. 169) the name is old Phrygian. There was a goddess *Meter Adrastos* (cf. *B.C.H.* XI, 1887, p. 349) and at Attoudda were held games, called 'Αδράστια, which Ramsay interprets to mean in honor of *Meter Adrastos*, rather than games named after their founder Adrastus (cf. Radet, *B.C.H.* XIV, 1890, p. 239). An agonothete Adrastus is mentioned in an inscription of Attoudda (cf. Ramsay, *C.B.* p. 183). On coins of Phrygia and Lydia we have Adrasteia nursing the infant Zeus (cf. Head, *Historia Numorum*², pp. 661, 667; Ramsay, *C.B.* p. 432). Adrasteia is a nymph on Mt. Ida, and a name of Cybele at Cyzicus, where there was a mountain and also a sanctuary of Adrasteia (cf. Ramsay, *C.B.* p. 170; Preller-Robert, *Gr. Myth.* I, p. 134; Hasluck, *Cyzicus*, pp. 48, 220; Strabo, 575, 588). Strabo (588) mentions a place Adrasteia in Mysia named from King Adrastus, who first founded a sanctuary of Nemesis (cf. Hasluck, *Cyzicus*, p. 95). The name Adrastus occurs in Cyprus also (Dittenberger, *O. G. I.* No. 583). In Greece the name is well known, especially at Argos, and the epithet of Nemesis, Adrasteia, was interpreted as a Greek word meaning "inevitable." But probably in origin Adrastus is non-Greek (Posnansky, *Bresl. Abh.* No. 5, 1887; but cf. *G. G. A.* 1890, p. 357). Adra-, (whether Semitic or Lydian) is found in Adramytes, son of the Lydian Alyattes; in Adramyttis, an island near Lycia; in Adramyteion which according to Stephanus (*s.v.*) was derived from a Lydian (τὸν γὰρ Ἑρμῶνα Λυδοὶ Ἀδραμύν καλοῦσι Φρυγιστί). Schulze (*Z. f. vergl. Spr.* XXXIII, p. 367) rightly compares the Thracian Ἀνδραβύς (*I.G.* III, 2565a), and there are many resemblances between Lydian and Thracian names. Others compare Adramyteion with Semitic Hadrūmetum, Hadhramaut, Hazormaveth. But probably the name Adrastus came into Lydia from Phrygia, since Herodotus (I, 35 f.) tells the story of a Phrygian nobleman Adrastus, who came to Croesus and was purified by him from the pollution of murder (cf. P.W., *s.v.*, Adrastos; Schubert, *Geschichte der Könige von Lydien*,

pp. 81 f.; cf. also Diodorus, IX, 29). We know one famous Lydian Adrastus from Pausanias (VII, 6, 6), who says that he died in the Lamian War fighting on the side of Athens against Leonnatus (322 B.C.). He was important enough to have a statue of bronze erected for him by the Lydians before the temple of the Persian Artemis, probably at Hierocaesareia (cf., however, Radet, *Cybébé*, p. 57, who favors Sardes; cf. Reinach, *R. Hist. Rel.* LXI, 1910, pp. 361 f.). Since the name is rare in Lydia and the Adrastus of l. 14 must also have been an important person, there is a bare possibility that this is our Adrastus, and that the *ἐξαίρημα* which Adrastus and Pytheus may have received before 322 B.C. had passed into the possession of Mnesimachus (see above, p. 20). Ἐφεσος Ἀδράστου and Καδοας Ἀδράστου in Col. I, l. 17, cannot have been sons of the Adrastus of I, l. 14, although they also lived at Tobalmoura, where Adrastus and Pytheus had received an *αὐλή*; and the Adrastus, son of Maneus of Periasasostra, mentioned in l. 18, is undoubtedly another person. These are *οἰκέται* or slaves with native names, the father's name being given as in many of the slaves' names in *B.C.H.* XV, 1891, p. 365.

Ἀντίγονος. — King 306–301 B.C., made overseer of Asia Minor and satrap of Phrygia by Alexander soon after 333 B.C.; cf. discussion of the date of the inscription, pp. 22–25.

Ἀρμανανδης. — This is a compound name of the common Lycian type, Ἀρμα-νανδης; cf. Lycian Ἀρμα-δαπιμης, Ἀρμα-πιας (*Reisen in Lykien*, II, 132, 126), Ἀρμα-δας (coin of Phaselis in Waddington Collection; cf. also Carian Ἀρμο-κοδωκα in Fick, *Vorgr. Ortsnamen*, p. 80, *B.C.H.* V, 1881, p. 109); Ἐρμα-δαννας, Ἐρμα-δαπιμης (*Reisen*, I, 51: 23, 39, 30; II, 95, 148); Ἐρμα-δορίας (*B.C.H.* X, 41); Ἐρμα-πτος, Ἐρμα-πιας, Ἐρμα-ραλος (*Reisen*, I, 84); Ἐρμα-κτας, Ἐρμα-κοτας (*Reisen*, II, 15, 102; *C.I.G.* 4255); Ἐρμα-το[β]ορις, Ἐρμα-ρους, Ἐρμα-ρουνδης, Ἐρμα-σαλας (*C.I.G.* 4303 h, 2); Ἐρμα-νδης (*Reisen*, II, p. 2, n. 4); Ἐρμα-στα (also Ἀρμα-στα, *Reisen*, II, No. 223; Lanckoronski, *Pisidien*, II, Nos. 157, 170), nasalized Ἐρμαν-δοας (*Reisen*, I, 7; II, p. 2, n. 4, Ἐρμανδης; *Jh. Oest. Arch. I.* II, pp. 62 f.); Ἐρμαν-διασις (*Reisen*, II, 88); Ἐρμεν-δαδης (*C.I.G.* 4315 f.); cf. Kretschmer, p. 361, and *T.A.M.* index. In Lycian (*T.A.M.* 121)

we have erñme-nēni, which in Greek would be *ερμα-νηνις*,¹ *αρμα-νηνις*, like *Περπε-νηνις*, and Cilician *Τεδι-νηνις*. The -η- (generally unknown in Lycian) is by compensation for the loss of the nasal in the vowel *ē*. Nēni is a term of relationship, and Mr. Arkwright thinks it means parent, either father or mother (gender being unknown in Lycian). Cf. the "Lallnamen" nana, nanna, etc., in Kretschmer, pp. 341 f., which probably refer to the mother-goddess. The use of divine names as personal proper names in Asia Minor is well known (cf. Kretschmer, p. 200, note; p. 355; Sittig, *De Graecorum Nominibus Theophoris*, 1911). From the same root *nē* with *nēni* is derived another word, *nē-ti*, which Mr. Arkwright thinks is synonymous (cf. *T.A.M.* 48). *Nēti* is probably dative from *nēte*, which in Greek would be *νενδης* or *νανδης* (the ending *ανδης*, so common in Asia Minor, as in *Σαροάνδης*, *Ἀποάνδης*, cf. Robinson, *A.J.A.* IX, 1905, p. 317, is similar). Therefore Lydian *Αρμα-νανδης* is probably synonymous with Lycian *erñmenēni*. With it are probably connected *Αρμουνανις* (from Cibra, *B.C.H.* XIII, 1889, p. 340; Sterrett, *Papers of the Amer. School at Athens*, II, No. 34, *Ἀῖμον Νανίς*; Ramsay, *C.B.* p. 270, *Ἀῖμουνᾶνις*, though he admits the probability of *Ἀρμου-νανις*). Possibly *Ερμα-*, *Αρμα-* may represent *Hermes*, in which case "parent of *Hermes*" or "*Hermes* = father" would be a divine name, an indirect equivalent for *Zeus* or the native god selected as equivalent to him. Greek names derived from *Hermes* are common in Lycian (cf. Kretschmer, p. 361). Cf., also, Pisidian *Αρμα-στα*, *Ερμα-στα*, *Ερμα-ιος*; Cilician *Αρμαρωνζας*, and Carian *Ερμα-πις*. The resemblance of the name *Armanae* (cp. *P.W.*, s.v.) to *Armanandes* may be only accidental.

Βελετρος or *Βελετρας*. — This is probably a Lydian name, but influenced by the Semitic *Bala-* or *Baal*, the Assyrian-Babylonian form being *Bêlu*, *Bel*. We know certainly that later there were Semites at or near Sardes (cf. *Josephus*, XIV, 10, 17, and 24; XVI, 6, 6); and probably in early days there

¹ Some of the names beginning with *Ερμ-* belong to a different root (*hrñm-*) as *Ἑρμ-ας* (*T.A.M.* 35, 10), and possibly *Ἑρμ-ιας*. This is for an older *zrñm*. So we find *Ζερμουνδης*, as well as *Ἑρμουνδης*. The root is probably *Ἑρμ-*, while the other is *Ἑρμε-* or *Ἑρμα-*. Cf. Cilician *Τροκο-ζαρμας*.

was some Semitic influence (Kretschmer, pp. 386 f.; Thraemer, *Pergamos*, pp. 343 f.). Hall (*The Oldest Civilization of Greece*, p. 173, n. 1) thinks that Sardians of Lydia and not Sardinians served as mercenaries in Palestine in the fifteenth century B.C. (cf. also Maspero, *Hist. Anc. des peuples de l'Orient*, p. 261; *R. Ét. Anc.* VIII, 1906, p. 11; Reinach, *R. Arch.* XV, 1910, pp. 48, 61, thinks they settled in Sardinia). Herodotus (I, 7) names Belus and Ninus as ancestors of the Heraclidae who ruled in Lydia. So Niebuhr, Kiepert (*Lehrbuch der alten Geographie*, p. 112), and others thought that the Lydians were Semitic, and that the Heraclidae were a Semitic dynasty overthrown by Gyges (cf. Kretschmer, pp. 384 f.), though Radet (*La Lydie*, pp. 58 f.) considers the Heraclidae Maeonians. Beletas is probably to be connected with the name of the Assyrian king, Beletaras (cf. also Belitaras the name of the servant of Parysatis, cf. P.W., s.v., and Plutarch, *Artax.* 19). Belesus, also king of Assyria, Belesys ruler of Syria and Assyria (Xen. *Anab.* I, 4, 10; VII, 8, 25), Beltra near Ecbatana, given in the Tabula Peutingeriana, Beltē in Phrygia, and the goddess Belēla (cf. *Syll.*, No. 739, 6), may have the same root (on Beltra cf. Tomaschek, *Sitzb. d. Wien. Akad.* CII, 1883, pp. 147 f., for Beltē cf. Hesychius, s.v.). Possibly we should compare also the Thracian Belesarius (Tomaschek, II, 12), which might be from Beletarios or Beletros.¹ The ending, tra or tros or tras, is rather rare in Thracian names, as well as in Asia Minor (cf. Mucatra, Aulutra; cf. Kretschmer, p. 331). We must also not forget the possibility that Bala- and Bele- may have a connection with the Sanskrit bala-m, meaning strength, and with the Phrygian βαλῆν = king (cf. Bal-bura), and with the epithet Βάλλης applied to Zeus in Bithynia (cf. *Ath. Mitt.* XIX, 1894, p. 373; Kretschmer, p. 242; cf. also Macedonian Baloion, Balacrus (Diod. XVIII, 22, 1; *Ins. B. M.* IV, p. 99), Baleinus (Kretschmer, p. 203). In Pamphyliā we have Balus (Lanckoronski,

¹ Beletros is certainly not Lycian, since Mr. Arkwright informs us that no Lycian word begins with a pure *B*, and this is generally true for all Southern Asia Minor. The few apparent exceptions are corrupt or foreign. Babas, Bas, etc., are Bithynian, Phrygian, and Lycaonian, straggling over into Northern Pisidia. Beithys is Thracian, and Balas Macedonian (*J.H.S.* VIII, 1887, p. 368). *B* before *l*, *r* is for *M* (Blaundos for Mlaundos), but it is unlikely that Beletros comes from Bletros for Mletros.

op. cit. I, No. 98), and in Lycia Bouloubasis (Petersen, *Reisen*, II, Nos. 227–228).

*Εφεσος is already well known as a proper name, and the city Ephesus was named after a hero Ephesus according to Paus. VII, 2, 7 (cf. P. W., s.v.), or after a Lydian Amazon Ephesus according to *Etym. Mag.*, s.v. *Εφεσος occurs in another inscription discovered at Sardes as the name of a cook, and we know from the *Etym. Mag.*, s.v. *Εφεσος and Δαιτίς, that some thought Ephesus received its name from a hotel-keeper named Ephesus. On the importance of the Lydian κάπηλοι, who were often powerful chiefs, cf. Radet, *R. Ét. Anc.* VIII, 1906, pp. 15, 16.

*Ηρακλείδης. — This, though a common name in Greece, is also well known in Lydia. Heracles played an important rôle in Lydia as ancestor of the Lydian kings, and is represented with the bow on a brick from Sardes (cf. K.P. II, Nos. 40, 65, 66, 67, 68, 69; Radet, *Cybébé*, p. 34 and pl. I; Schubert, *op. cit.* p. 5). The legend of Omphale was localized by some at Sardes (cf. Friedländer, *Herakles*, *Phil. Unters.* XIX, 1907, p. 77; Wilamowitz, *Herakles*,² I, 77), and a head of Heracles is a common type on coins of Sardes (cf. Head, *Hist. Num.*² p. 656). One of the Lydian dynasties was that of the Heraclidae (cf. Her. I, 7, and Radet, *La Lydie*, pp. 58 f.). The name Heracleides appears on Sardian coins before 133 B.C. (cf. *Brit. Mus. Cat. of Coins, Lydia*), and frequently in Lydia (cf. Buresch, *Aus Lydien*, p. 85; K.P. Nos. 20, 21, 96, 131, 141, 170; II, Nos. 5, 156, 168, 221). Heracleides is a common name in Asia Minor as well as in Greece (cf. also Friedländer, *op. cit.* p. 160), and connected with Heracles; but the name of his father, Beletros or Beletras, is probably peculiar to Lydia and Asia Minor, as we have seen. It is natural in a city where Greeks and Orientals lived, as often to-day in Asia Minor, that a family originally Lydian should adopt a Greek-sounding name. So, to cite only one instance, Pythius is the grecized Lydian son of Atys, a pure Lydian name (cf. below s. Pytheus, and Ramsay, *C.B.* p. 418).

Καδοας. — This is chiefly a Pisidian and Phrygian name, connected with the towns Kadyanda and Kadoi (cf. Buresch, *op. cit.* pp. 156 f., p. 164 note; Ramsay, *C.B. passim*; cf. also Cilician *Kadas*, *Kadis*, *Kadeas*, *Kadaδης*). But it is also old

Lydian, Kadys (Phrygian Kotys, also a Lydian son of Manes, cf. Her. IV, 45; in Thrace cf. Tomaschek, *Thraker*, II, 2, 50; and Kretschmer, p. 202; Diod. XVI, 34, XXX, 3; cf. also Ramsay, *H. G.* p. 147). The ethnic from Kadoi is *Καδοηνός*. So the proper form is *Καδοφοί* or *Καδοί*, *Καδοφους* or *Καδους*, or *Καδvs*, hence the personal name *Καδovas*, i.e. *Καδοφας* found on the southern Phrygo-Pisidian frontier (cf. Ramsay, *C.B.* p. 314; *C.I.G.* 3956 d). In Sterrett, *op. cit.* III, Nos. 63, 128, we have *Καδας*; No. 296, we have *Καδεας*, in *B.C.H.* II, 1878, p. 248, from Phrygia *Καδαος*, in *I.G.* II, 5, 1328 c, p. 307, *Καδους* along with other Phrygian and Lydian names; in *C.I.G.* 4367 (Termessus) *Καδovas* bears the same relation to *Καδavas* in *J.H.S.* VIII, 1887, p. 245, as *Καδvανδα* = *Καδovanδα* does to *Καδavanδα* (cf. Arkwright, *Jh. Oest. Arch. I.* II, 1899, p. 57; cf. *Καδαovas* in Ramsay, *H.G.* p. 307, both near Tefeni). Kadouidas occurs in Diog. Laer. I, 8, as king of Scythia. But the name is a good Lydian name, since the son of Alyattes was *Καδvs*, who ruled Lydia with his twin brother Ardys, and the father of Sadyattes was *Καδvs* (cf. *F.H.G.* III, p. 383 = Nicolaus Damascenus, fr. 49). The root, then, is *Καδv-* or *Καδαφ-* or *Καδοφ-*. The root *Καδv-* occurs also in *Καδvιη* near Magnesia on the Maeander (cf. Kern, *Ins. v. Magn.* 113, 23) and *Καδvανδα*, but possibly there was also a variant *Καδ-*, which is found in *Καδμος* and *Καδηνα* (cf. Fick, *op. cit.* p. 24). In Pisidian *ou* is often written for *φ*. From the root *Καδv-* is derived the name of the Lycian town *Καδvανδα* (Lycian *Kadawāti*), from forms **Kadawa* = *Καδavas*, and **Kaduwa* = *Καδvas*, *Καδοας*.¹ The ending *-oas* is common in Asia Minor, cf. *Opramoas* (Ramsay, *C.B.* p. 269), *Nalagloas* (Dittenberger, *O.G.I.* No. 751), *Kidramoas* (Sterrett, *op. cit.* II, p. 44, l. 30), *Nannamoas* (Kretschmer, p. 342, others in *moas*, *ibid.* p. 333), *Sisamoas* (Ramsay, *E.P.* p. 30). In Lydia we have *Mēnōas* in K.P. I, No. 141,

¹ The Lycian suffix *-āti*, *-ēti*, *-īti* (= *vđa*) forms collectives. *Καδvανδα* would be the people or race of *Καδavas*. Mr. Arkwright compares the *McCadvishes* in Scotland. It is remarkable that several places ending in *-vđa* have no discoverable regular town, but various small ruins between which it would be hard to decide, e.g. *Aloanda*, *Tuinda*, *Trebenda*, *Kalynda* in and near Lycia. At *Kadyanda* itself the city is late, and there are various scattered groups of early tombs. So Mr. Arkwright thinks the suffix originally applied to a district, not a town, cf. *Πεγέ(ων) Πόδανδος* in Hierocles.

and the Persian name Bagōas in K.P. II, No. 10; Diod. XVII, 39. The Greek name Κάδος from κάδος = urn (cf. *O. G. I.* 770; *Archiv für Rel.* XIV, 1911, p. 145) must not be confused with Κάδοας.

Κάϊκος. — This name needs no comment, since it is the name also of the well-known Lydian and Mysian river, which figures so often on coins of Pergamum and of towns in the valley of the Caicus (cf. Head, *Hist. Num.*² pp. 536, 647, 658). Κάεικος occurs as a proper name in K.P. II, No. 208; Fränkel, *Ins. v. Pergamon*, No. 374 A; Καίκας in Le Bas-Waddington, *Inscr. d'Asie Min.* III, No. 782; cf. Sittig, *op. cit.* p. 129.

Κορεῖς. — Κορειδος in l. 9 at first sight looks like the name of a *phyle* or κώμη (Κόρος); cf. Ramsay, *Cl. Rev.* XIV, 1900, p. 80 (cf. however, at Sardes, *Asias*, Her. IV, 45, and Tymolis, *C. I. G.* 3451). The names of tribes are often formed from the names of divinities, and we know that Kore had a cult at Sardes and games called Koraea were held there in her honor (cf. Radet, *Cybébé*, pp. 70 f., 88 f.; and Head, *Hist. Num.*² p. 657). But it would be strange to have a tribal name so early, though we know from Herodotus (IV, 45) that even in his time there were tribes at Sardes; and, furthermore, where a tribal name occurs, the patronymic is usually added, the parent's name being in a legal document almost essential. Κορειδος seems rather to be the genitive of a feminine Κορεῖς, like Nineis, Tateis, Artemeis, etc. (a common Phrygian termination with genitive often in -ειδος). Now, in Asia Minor it is by no means unusual for a man to bear his mother's name (cf. Ramsay, *C. B.* pp. 95, 96, 116; Calder, *Cl. Rev.* XXIV 1911, p. 80; Sterrett, *op. cit.* II, No. 21; Treuber, *Gesch. d. Lykier*, p. 117; and other references in Anderson, Cumont, Grégoire, *Studia Pontica*. III, pp. 181, 182). So at Attaleia in Lydia (to cite only one example from Lydia) Menodorus the *strategos* is the son of Euphemis (cf. *B. C. H.* XI, 1887, p. 401). Koreis, then, is perhaps a native Lydian woman's name; but it might also be a man's name like Korris (Le Bas-Waddington, *op. cit.* No. 389; a list of male names in -is is given in *op. cit.* No. 330; cf. also *Pap. Amer. Sch.* III, p. 73). It is hardly a Greek name, since it resembles too much οἱ κόρεῖς, and Mr. Arkwright informs us it is not Lycioid, though there is a name Kwrijāna (*T. A. M.* 81, 1), which

he thinks is a borrowed non-Lycian name. There are no really analogous native words or proper names, local or personal, nor are there any analogies in southern Asia Minor¹ generally except Pamphylian *Κουρασιω-Κουρασίωνος* (cf. Lanckoronski, *Pisidien*, No. 64). *Κορεῖς* is rather to be connected with *Κορος* (*C.I.G.* 3674, Cyzicus; Le Bas-Waddington, *op. cit.* No. 709; cf. Head, *Hist. Num.*² p. 654, Nysa; cf. *Κόρον πεδίων* in Lydia),² *Κορρη* (*C.I.G.* 3150, Smyrna), *Κόρως* in Her. III, 9, *Κορρίς* (gen. *Κορριδος* in *C.I.G.* 2694 at Mylasa), *Κορραγος* (found at Xanthus as well as at Cyzicus, *C.I.G.* 3660; but the -pp- marks it as foreign to Lycia), and *Κορύλας* in Paphlagonia (Xen. *Anab.* V, 5, 12; VI, 1, 2; VII, 8, 25). Hoffmann, *Die Makedonen*, p. 144, gives *Κορραγος* as a Macedonian name along with *Κορραβων*, *Κορρατας*, *Κορραβος*, and *Κορραιος*; and derives all from *κορσα* (= temple or head). Mr. Arkwright thinks he minimizes the known barbarian basis of Macedonian nomenclature, and would derive these names from Illyrico-Messapian *Koras*, cf. Couria, Noricum. *Korja* would become *Korra* in Illyrico-Messapian. The Etruscan name *Cure* (cf. *C.I.E.* No. 436, Cortona) from which the Italian gentes *Curia*, *Coria*, *Coriaria*, *Curretia* are derived, may also be related to *Κορεῖς*, if the Etruscans came from Lydia, as Herodotus says. On the whole the name points rather to the Paeonian-Macedonian connection suggested by some of the local names.

Maveos or *Maveas*. This name in the form *Μάνης* belongs mainly to Phrygia and Paphlagonia, cf. Strabo, 304, 553, *Μάνης*, slave of Diogenes of Sinope, cf. Aelian, *V.H.* XIII, 28; Diog. Laer. VI, 55; Teles in Stobaeus, *Flor.* XCVII, 31; Seneca, *De Tranq. Animi*, VIII, 5; at Sinope, cf. Robinson, *A.J.P.* XXVII, 1906, p. 447. In Phrygia, cf. *B.C.H.* XXV, 1901, p. 329; *J.H.S.* XIX, 1899, pp. 76, 77, 84 (Galatia); Ramsay, *C.B.*

¹ *Κορύ-δαλλα* is Greek or Hellenized. *Κορβος*, *Κορμος* are from roots *Κορβ-*, *Κορμ-*, not *Κορ-*, *Κυρ-*. One thinks also of the modern Lydian village, *Köres*, which Buresch (*op. cit.* pp. 88, 197) identified with the ancient *Κέρυζα*; but cf. Wiegand, *Ath. Mitt.* XXIX, 1904, pp. 318 f.; K.P. II, p. 116.

² Cf. *Rev. d. Phil.* XXVI, 1902, pp. 260 f. Bévan, *House of Seleucus*, I, p. 323; Hassoullier, *Didymes*, p. 106, n. 1; Radet, *Cybébé*, p. 70, N. 2, does not think it has been proved that the *Κόρον πεδίων* was in Lydia. For the *πεδίων Κύρου*, which many identify with this, cf. Strabo, 626, and K.P. II, p. 115; *Ἀθηνᾶ*, XVI, 1904, p. 183; Beloch, *Gr. Gesch.* III, 2, pp. 385 f.

p. 270 (gen. and dat. *Μαυῆδος* and *Μαυῆδι*), p. 566 (gen. *Μάβου*); Plutarch, *De Is. et Osir.* 24, p. 360 B (ancient Phrygian king and god). It is, however, found also on the north shore of the Euxine (Latyshev, *Inscr. Ant. Or. Sept. Pont. Eux.* II, No. 116, *Μάβω*). *Μάβης* is common in Aristophanes as a slave's name, but it is not necessarily so in Asia Minor. To be connected with *Μάβης* are *Μαβᾶς* (*B.C.H.* VIII, 1884, p. 147), *Μηβᾶς* (*O. G. I.* Nos. 339, 533, l. 80; Le Bas-Waddington, *op. cit.* No. 786; *Rev. d. Phil.* XXVI, 1892, p. 257; *B.C.H.* XXIV, 1900, p. 380), *Μάβνις* (Sterrett, *Pap. Amer. Sch.* II, No. 225, *Μάβνις* in Latyshev, *op. cit.* II, No. 24), *Μαβόσας* (*Ath. Mitt.* XIII, 1888, p. 266; in *C.I.G.* 3989 h, *Μάβης* *Μαβόσου*), *Μάβησος* (*C.I.G.* 4366 t; Manesium and Manegordus, *i.e.* Manes' city, were also old Phrygian cities, Kretschmer, p. 231), *Μαβία* (*Ath. Mitt.* XIII, 1888, pp. 266; Athenaeus, 578 b; Latyshev, *op. cit.* II, No. 246), *Μῆβνις* (Sterrett, *op. cit.* II, Nos. 38, 47–50, 53, 72–75, 81; Lanckoronski, *Pisidien*, No. 195; *O. G. I.* No. 505; Wilhelm, *B.C.H.* XXIX, 1905, p. 413), *Μῆβακον*, etc. (cf. Kretschmer, pp. 188, 200, 201), *Μαβίτας* (Le Bas-Waddington, *op. cit.* No. 379; *Syll.* No. 95, l. 34), *Μῆβνιος*, *Μῆβνιχος*, *Μάβνιος*, *Μάβνις*, *Μάβνιχος*, etc. (cf. Sittig, *De Graecorum Nominibus Theophoris*, 1911, pp. 153 f.). Ramsay (*C.B.* pp. 169, 294, 626) has suggested that Men is a grecized form of the Phrygian god Man or Manes, and that the accidental resemblance of Men to *Μῆνυ* led to identification with the moon-god. Menis, which is common in Pisidia, would also be a grecized form of a native name derived from the Anatolian word Man or Manes. But the Greek names Menodorus (cf. Manodorus in Arist. *Birds*, 657), Menodotus, Menogenes, Menophantus, Menophilus, etc. (cf., also, Hasluck, *Cyzicus*, p. 245) which also occur frequently in Asia Minor (cf. Sittig, *op. cit.* pp. 156, 157), are derived from the grecized Men, who had a sanctuary at or near Sardes (cf. *Mouseion*, 1876–8, p. 25; *B.C.H.* XX, 1896, p. 71). Probably the name of the hero *Μάσωνης* or *Μασάωνης*, which occurs on coins of Sardes (cf. Head, *op. cit.* p. 657), is the same as *Μάβης*, though this is not cited by Müller in *F.H.G.* IV, p. 629, nor by Wilamowitz (*Hermes*, XXXIV, 1899, p. 222), who connect *Μάβης* (cf. Her. I, 94; IV, 45), the early king and father-god of Lydia, with *Μάσωνης* and

with the river Μάσωνης (cf. Hephaestion, *De Metris*, p. 14, ed. Gaisford; and Herodian in *Etym. Mag. s.v. δάσληρα* and Dion. Hal. *Arch.* I, 27, where Codex Vat. has Μάσνεω). In Plut. *De Is. et Os.* 24, p. 360 B, Μάωνης is called Μάσδης (Dübner reads Μάσσης). Wilamowitz compares Μάσσην for Μαρσύαν in Plut. *De Mus.* 7, p. 1133 F; but rightly says that it is not the same name, as Ramsay (*C.B.* p. 348) points out. The derivation of Μάωνης from Μάσωνης now seems certain since we have the intermediate form Μάωνης in Wilhelm, *Beiträge zur Inschriftenkunde*, pp. 35 f. Kretschmer, p. 198, compares also the Latin mānus, māne, mānes, Mania and Phrygian μανία (all with the original meaning "kindly"; cf. Athenaeus XIII, 578 b; *Trans. Am. Phil. Ass'n.* XXXIII, 1902, p. 162 f.). Callander in Ramsay, *E.P.* pp. 160, 164, interprets Μήνας as the plural of Men, or the gods of the underworld—cf. Latin mānes. Wilamowitz, *l.c.*, disagrees (cf., also, Gruppe, *Gr. Myth.* p. 1535); but cf. the forms Manius in Thrace and Upper Moesia (Tomaschek, II, p. 23), Μάμιος in Lydia (K.P. I, Nos. 4, 96), Μανιάς in Lydia (K.P. II, No. 141), Μήμιος in *I. G.* XII, 2, 324. In the Sardinian inscriptions we have a new form of the name. The nominative of Μάεου is probably Μάεος (as Πύθεος in l. 14), from Μάεσος rather than Μάεας (cf. Μεννέας in Ramsay, *C.B.* pp. 337, 339, 758, 759; *O. G. I.* 751; *Reisen in Lykien*, No. 223); and just as we have Πύθης and Πυθέας, so here we have Μάεος or Μάεας instead of the more usual Μάωνης. In Benndorf und Niemann, *Reisen*, I, No. 83, we have Μάεος Μανιτους.

Μνησίμαχος is an already well-known Greek name. He was probably one of the Greek officers under Alexander and Antigonos, who was rewarded for his services with the villages and other property mentioned in Col. I.

Πύθεος, the chiliarch of Col. I, l. 5, is probably the same as the Πύθεος of Col. I, l. 14, who received with Adrastus an αὐλή at Tobalmoura. He cannot be identified, though Pythius is the grecized name of the Lydian merchant-prince about whom Herodotus (VII, 27–29) tells an interesting story (cf. Ramsay, *C.B.* pp. 417 f., and Radet, *Lydie*, p. 82). He can hardly be the famous Pytheas, who may have gone to Cassander or Antigonos on the fall of the oligarchic government in 318 B.C. The name is Πύθεος, not Πυθέας, and we know nothing of this

Pytheas having resided in Asia Minor; but the Πύθιος of Her. VII, 27 f., becomes Πύθης in Plut. *Mor.* 263 f.; Polyaeus, VIII, 42; Steph. Byz. *s.v.* Πυθόπολις, and in a scholiast to Aristides Πυθέας (cf. Macan on Her. VII, 27, 2). So Πύθεος is still another form of Πύθιος, Πύθης, Πυθέας.

Σαγάριος, the chiliarch, must be a variant of Σαγγάριος, which is the usual spelling for the Phrygian and Bithynian river (cf. Steph. Byz. *s.v.*, and Strabo, 543, 563, 567). Just as Mostene is derived from Mosstene, and Σάγαλα in Ptolemaeus, VII, 1, 46, is for Σάγγαλα, so here as often we have a single consonant for a double. So in Pliny, *N.H.* IV, 26, we have Sinus Sagarius, into which flowed the Sagarius (Sagaris) of Sarmatia (cf. Roscher, *Lexicon*, *s.v.*, and Pape, *Gr. Eigennamen s.v.*). In Ovid (*ex Ponto*, IV, 10, 47) and Pliny (*N.H.* VI, 1) and in an inscription of Cyzicus (cf. Hasluck, *Cyzicus*, p. 246) we have Sagaris as the name of the river in Bithynia which in Homer (*Iliad*, III, 187; XVI, 719) and elsewhere is Σαγγάριος (cf. *I.G.* II, 5, 1328 c Σαγγάριος as a man's name). Perhaps the same root Σαγ- occurs in Sagalassus, Sagalessus, Sagartii, Sagala, Sangarus, Sagone, etc. Perhaps, however, Σαγάριος is to be connected with Σάγαρα, which occurs only in Hierocles 663 as a place on the Hellespont, and is related to the name of the river Sagaris (cf. Ramsay, *H. G.* pp. 134, 155). As Ramsay has shown, Sagara can hardly be a wrong formation and misplacement of the Lydian Satala, as Waddington thought (cf. *Voyage en Asie M. au point de vue numismatique*, pp. 64, 65). Sagrus is a Venetan-Illyrian name. Sagarius occurs as a gentile name in Campania, probably derived from a river Sagrus. There is a river Sagrus among the Frentani (Strabo, 242), and Sagra occurs in Bruttium (Strabo, 261, 262; cf., also, the river Sagras there, Pape, *op. cit. s.v.*; and Head, *op. cit.* p. 94). Like many south Italian local names, Sagrus is probably Illyrian (cf. Conway, *Italic Dialects*, II, Index III). There is hardly any connection with the Lycian Hakāna, no doubt for an earlier Sakāna, though the modern name for the Sangarius is Sakaria. Mr. Arkwright hesitates to compare the name for the weapon used by the Scythians, Persians, etc., σάγαρις (cf. Her. I, 215; Xen. *Anab.* IV, 4, 16; V, 4, 13, etc.), which he thinks is Scythian for axe. Some, however, think it is Persian

for sword, and possibly Σαγάριος is connected with the Persian σάγαρις or, as Eisler (*Philologus*, LXVIII, 1909, p. 126) thinks, with σάγαρις, the axe, of Phrygia (Sagaris was the name, also, of the son of Midas). But it seems better to take Σαγάριος as a personal name formed from some village or place called Sagara, and connected by the Greeks with σάγη. This is the first occurrence of the name in Lydia, and we are unable to identify our chiliarch, but Sagaris (another form of Σαγγάριος) occurs as the name of a bishop of Laodicea (martyred Oct. 6, ca. 166 A.D.; cf. Ramsay, *C.B.* p. 78). The name Sagaris (cf. *s.v.* Τυιος) is known also from coins of Bithynia and inscriptions of Phrygia and Galatia and Venusia, cf. Head, *op. cit.* pp. 516, 517, 748; *C.I.G.* 3973, 4066, 4083 (Σαγάριος), Add. 5875 a² (= *I.G.* XIV, 688), *C.I.L.* IX, 425. Σαγγάριος was the name, also, of a mythical ruler in Bithynia (cf. Pape, *op. cit. s.v.*) and in Ovid's *Fusti*, IV, 229, a Phrygian nymph is named Sagaritis. In *J.H.S.* XXXI, 1911, pp. 185, 199, from Phrygia, we also have Σαγάριος.

Τυιος. — This (Col. I, l. 18) is the only instance in the inscription where the grandfather's name is added. Whether it was to distinguish Τυιος more clearly or what may have been the reason is not clear (cf. for addition of grandfather's name K.P. I, No. 113; II, Nos. 98, 168, 247; *O.G.I.* No. 262, 7, etc.). In *C.I.G.* 32 we have Τυῖς, which is undoubtedly the same name (for *ις* instead of *ιος*, cf. Mayser, *Gramm. der gr. Papyri*, *Laut- und Wortlehre*, 260, note 2; Wilhelm, *Wiener Studien*, XXIV, 1902, p. 599; other references in K.P. II, p. 50, No. 103). Probably the Paphlagonian Θῦς (*Compte-rendu*, 1874, p. 107 = according to Kretschmer, p. 207, Thus in Nepos, *Datames*, c. 2) is a variant of the same name, just as Θίμβις is a variant of the Phrygian name Τίβιος, and we might compare the Persian city Tus, named after its founder Tus. Τυαῖης, which occurs in the Cimmerian Bosphorus (cf. Skorpil, *Bosporus Inscriptions* (Russian, 1907), p. 6, No. 3; cf. also Latyshev, *op. cit.* II, No. 202), is another variant. Perhaps we have the same root aspirated in the goddess Θύα, in Θύ-ουνδα, Θυία, Θυάτειρα (village of goddess Θύα), Θυεσσός (said by Steph. Byz. *s.v.* to be a πόλις Λυδίας; cf. K.P. II, p. 57, and *R. Ét. Anc.* VIII, 1906, p. 16),

possibly in the late personal name Tieiou which is genitive rather than indeclinable (cf. Ramsay, *C.B.* pp. 169, 758 f.; K.P. II, p. 104; cf., also, Τουησιανός in *C.I.G.* 4352). Τυιος may be Lycioid, but the name is not distinctive; cf. Lycian τοφε, tuwi, tuwete (= he dedicated), tuwiḣē (*T.A.M.* 44 d. 1); tuwiz (44 d. 70), possibly genitive of a proper name, *Tuwi. Tuwada (42, 3) is a Lycian proper name (cf. also, Lycian Τοαλις and Τοαδνη; Pisidian Τουης, Τοαλις (Lanckoronski, *op. cit.* II, 260); cf. Cilician Τουης, Τουεους, and Τως (for Τοας), and especially the Lycian town or sanctuary Τυνδα, which may have been named after some hero Τυιος, just as the Cilician Κύνδα was named after Κύνιος. Since Τυνδαρίδαι has the same root as Τυνδα, but without υ (cf. Fick, *op. cit.* p. 140), Τυιος may be a variant of Τιος and its derivatives (Τείιον, Τιείου, etc.). In view of the Lycian and Pisidian Τοαλις, it is tempting to think that possibly Τυιος is a variant of Τύλος or Τύλων, the name of the Lydian hero which occurs on Lydian coins and in literature. He was the ancestor of Tylanda or Tylonida (*Brit. Mus. Cat. of Coins, Lydia*, pp. cix f., cxiii; Head, *op. cit.* p. 657; Dion. Hal. I, 27; Nonnus, XXV, 451 f.; *F.H.G.* III, p. 383 (fr. 49 of Nicolaus Dam.); Pliny, *N.H.* XXV, 5; Radet, *La Lydie*, pp. 83 f.).

Χαιρέας. — This, like Mnesimachus, Antigonus, Pytheus, etc., is a Greek name, already well known (cf. Fick-Bechtel, *Griech. Personennamen*, p. 286). It appears at Sardes in Roman times in the name Τιβέριος Κλαύδιος Χαιρέας (*C.I.G.* 3462; *B.C.H.* I, 1876, p. 84).

NAMES OF VILLAGES OR DISTRICTS. "Αττουδδα. — This is probably the well-known city on the Lydo-Phrygian border, though there may possibly have been another Attoudda in Lydia. The name is rather Lydian than Phrygian, and is derived from Lydian "Ατυς, "Αττυς (cf. Kretschmer, p. 350). On the other hand, the Lydian names Σαδνάττης, 'Αλυάττης are compounded with the Phrygian "Αττης (cf. Kretschmer, p. 387). There is much reciprocal Phrygian and Lydian influence. The suffix -da is widespread in Asia Minor (cf. Ramsay, *C.B.* p. 144), and one of the many forms it takes is -oudda or -ouda (the -d- being doubled on the Lydo-Phrygian boundary) as in Aloudda, Klannoudda, Saloudda, etc. (cf. Kretschmer, p. 330; also else-

where in Lydia itself, cf. K.P. II, p. 7). Our inscription confirms the spelling Attoudda, which Ramsay (*C.B.* p. 169, note 2, p. 585) says is the proper spelling, since the oldest silver coins give it. In *H. G.* Ramsay uses the form Attoudda, but in *C.B.* pp. 165 f., 169, etc., he writes Attouda. For the site of Attoudda, the only one in the inscription that can be definitely located, see Ramsay, *J.H.S.* XVII, 1897, p. 398; *C.B.* pp. 165 f.; Pauly-Wissowa, *s.v.* Attoudda here means the entire territory of the πόλις, and not the mere fortified town, hence it included villages such as Ἴλου κώμη. The preposition ἐν (ἐν Ἀττούδδοις) probably indicates not only the district where Ἴλου κώμη was situated, but dependence on Ἀττούδδα (cf. Chapot, *La province rom. d'Asie*, pp. 96 f.; cf. such phrases as τὴν ἐν Μιλήτῳ Ἀβυδὸν or ἔστι καὶ ἐν Κυζίκῳ κώμη Μέλισσα, Steph. Byz. p. 10, ed. Mein, and p. 442).

Ἴλου κώμη. — Here again we have a Phrygian relationship, since Ἴλος was probably some Phrygian hero after whom Ἴλιος was named, and so a Phrygian name.¹ The village got its name from some man named Ἴλος, who originally owned it or founded it. Such names for villages were and are to-day common in Asia Minor (cf. Hassoullier, *Didymes*, p. 108). In Lydia, to mention only a few examples, we have Δόρου κώμη (K.P. II, No. 204), Ἀρκαδιούπολις (Buresch, *op. cit.* p. 187), Δαρείου κώμη (*ibid.* p. 32), Μήλου κώμη (*ibid.* p. 133), Μερνούφυτα (K.P. II, No. 51), etc.

Ἴλου ὄρος. — Here again it is better to take Ἴλου as a genitive and not as indeclinable (cf. below *s.* Τανδου). There was a place then in the Sardian plain called Ilus' Hill or Ilus' Mountain, just as we hear of Ἴλου σῆμα and Ἴλου πόλις (*Iliad* XI, 166; Pindar, *N.* VII, 43; and in Paus. III, 24, 7, we have Mt. Ilium). Ἴλος occurs frequently in literature as son of Dardanus or Tros, but rarely in inscriptions (in Phrygia *C.I. G.* 3902 g; in Thasos, *I. G.* XII, viii, No. 277, 69; 278, 36). The Lydians, however, were familiar with Ilium, which was restored during their last

¹ Lewy, *Die Semitischen Fremd-Wörter im Griechischen*, p. 196, connects Ἴλος with the Assyrian god Il; but this seems doubtful, since Ilium was the name of places in Macedonia, Thessaly, Thrace (cf. Steph. Byz.). For a possible connection of the Semitic Iliouna with the Iliaus of Troas and also of Sardinia, cf. Reinach, *R. Arch.* XV, 1910, p. 48. In Josephus, VII, 12, 4, we have a Hebrew named Ἴλος.

dynasty (cf. Strabo, 565, 601). "Ιλου ὄρος was in the Sardian plain, and the village Tobalmoura was situated on it. But "Ιλου κώμη, if our identification of Attoudda is correct, must have been near the Phrygian Attoudda (cf. the Phrygian "Ιλούζα in Hierocles, 667, which has the termination -za-, which occurs in one of our Lydian inscriptions (cf. Thumb, *A.J.A.* XV, 1911, p. 152).

Κιναροα. — The termination -oa- is new for Lydia, though it is common in other parts of Asia Minor, cf. Ammoa, Atenoa, Atroa, Caecoa, Loloa, Minoa, Nanitoa, Nanao, Psoa, Soa, etc. Possibly in origin these were genitives of a nominative in -oas, but that is uncertain. Possibly *Κιναροα* is connected with the Semitic Kinaroth or with *κινύρα* (an Asiatic lyre, cf. Hebrew *kinnûr*). There was a mythical king of Cyprus named Kinyras (cf. Clem. Alex. *Protr.* II, 13, 4; 14, 1) who, perhaps, was not the "lyre-player," but the representative of the old Hittite population (cf. Fick, *Vorgr. Ortsnamen*, p. 67). A city in Cyprus was named Kinyreion (cf. Steph. Byz. *s.v.*). Another Kinyras was king of Byblus (cf. Strabo, 755). But it is more probable that there was a native root Kin-, and that -aroa is a variant of -ara, which occurs so frequently in Asia Minor, cf. Labara, Lysinara, Panamara, Patara, Pinara, Tomara, etc.; or better a combination of the endings ara and oa. We might then see the same root Kin- in Kinnounis (Lanckoronski, *Pisidien*, No. 34, and in Lycian Kindanubos and Kindaburis (cf. Arkwright, *Jh. Oest. Arch.* I. II, 1899, p. 59 f.; Le Bas-Wad. *op. cit.* No. 496; Fick, *op. cit.* p. 24, however, connects these with Κέδρος), in Κίμβρος Κίμβρου (in list of Pergamene *ephebi*; cf. E. Curtius, *Berl. Abh.* 1872, p. 63, l. 40, cf. Latyshev, *op. cit.* II, Nos. 434, 443, 447, 448), in Kinalua (Garstang, *The Land of the Hittites*, pp. 376, 387), Kindya in Caria (cf. Strabo, 658; *J.H.S.* XVI, 1896, p. 196, Artemis Kindyas, *B.C.H.* V, 1881, p. 192), Kinolis (Strabo, 545, cf. Latyshev, *op. cit.* II, Nos. 153, 226. We should also compare the Phrygian Kinnabora (cf. Kretschmer, p. 307) and Kinna, to which Ramsay has changed Kinara in the *Acta S. Theodori* (p. 44); cf. Ramsay, *H.G.* pp. 245, 247, 430. And perhaps, also, the name of the Lydian Κυνή (cf. Fick, *op. cit.* p. 80; and the name Κύννα in Diod. XIX, 52, 5) has the same root. It is likely that

the Greek word *κινάρα*, meaning artichoke, and the island Kinaros are also related, since Fick (*op. cit.* p. 57) suggests that *κινάρα* may be a borrowed word.

Κομβδιλιπια.—This reminds us of Κοβηδύλη in K.P., II, No. 223, perhaps a castle of the Castolian plain. Possibly this and Kombdilipia are identical, since variant names are so often found. But future epigraphical discoveries can alone definitely locate our village. The root seems to be the same as that of the Lycian city Komba (cf. the epiclesis of the Lycian Artemis, Κομβική, in *B.C.H.* XXIII, 1899, p. 335; and *Arch. Epigr. Mitt. aus Oest.* 1883, p. 24, cf. such names as Κέμπτυς in *B.C.H.* IV, 1880, p. 316); or it may be that which appears in Κυβήβη and Κυβέλη (cf. Eisler, *Philologus*, vol. LXVIII, 1909, p. 130, who derives Κυβέλη from kuba-kumba (cf. κύμβαλα, etc.) and compares Sanskrit kumba, Pers. kumbhō, with Greek κύββα, κύμβη). Cf. also Kubima (Le Bas-Waddington, *op. cit.* Nos. 323-4), and Kanduba, *ibid.* No. 1284, Lycia; Ptol. V, 3, has Konduba. There may be some connexion with the Assyrian Koummani (cf. Kommana, Kommagene), Khumba-sitir, and Khumbaba. But we should prefer to compare Καμβαδηνή (*Wiener Sitzb.* CII, 1883, pp. 148, 151), Kambauas (Lanckoronski, *op. cit.* II, No. 1), Kondmalas (*Syll.* No. 11, l. 7), Kondosas (*J.H.S.* XV, 1895, p. 120; cf. Assyrian Kundashpi), Kbondiassis (*Syll.* No. 11, l. 125), Koundalis (*Reisen in Lykien*, II, 7), Kondalos (Kretschmer, p. 295; Ps. Arist. *Oec.* 1348 a), and perhaps even Kand-aules (Her. I, 7; cf., however, Kretschmer, p. 388, and Hipponax, fr. I). With the last part of Kombdilipia we should compare the Lycian Delepias (Petersen, *Reisen in Lykien*, No. 87, Τληπίας, No. 256), Delepimis (*B.C.H.* XVIII, 1894, p. 326; *J.H.S.* XV, 1895, p. 131), the Thracian Diliporis (cf. Kretschmer, *op. cit.* pp. 184 f.), and the Dili-mnitai (cf. Pape, *Gr. Eigennamen*, s.v.). The best view, then, we think, is that Kombdilipia combines the Lycian Komba and Delepias. It is true that as a rule compounds are not Lycioid, but this may be made up of Lydian words similar to Lycian. In any case, here again we see one more connexion between Lydian and Lycian (cf. Thumb, *A.J.A.* XV, 1911, pp. 158-160). Perhaps there was a Lydian or non-Greek word κομβος (cf. κομβων in Insc. from Cos, *J.H.S.* XI, 1890, p. 124,

No. 7, l. 12; Lanckoronski, *op. cit.* II, No. 200, note) equivalent to γαμβρός, and Kombdilipia might originally have been a genitive meaning "village of the son-in-law(?) of Dilipias," just as Tandou meant "village of Tandus." Na[g]ria and Kinaroa may also in origin have been genitives (for termination -oas cf. p. 34), but the termination has become indeclinable.

Μορστου Ὑδωρ. — This must have meant originally the "water-district" or "river-district" of Morstos (or Morstas or Morstes), since we have the phrase ἐν Μορστου Ὑδατι (l. 7) corresponding to ἐν Σαρδιανῶ πεδίῳ and ἐν Ἀττούδδοις. It meant either a flooded, marshy district such as those that even now exist in the valleys of the Hermus, Maeander, and other rivers of Asia Minor; or else the basin of the Morstas-stream. Morstos (or Morstas or Morstes) would be a good name for a stream, since it is probably related to Marsyas, the well-known Phrygian river (cf. Ramsay, *C.B.* pp. 399 f., 451 f.). Marsyas is in Caria and Phrygia a common name for rivers, as well as for heroes, and its occurrence in Syria (cf. Strabo, 753; Polybius, V, 45, 8) shows that it goes back, as Ramsay, *C.B.* p. 348, says, to the pre-Phrygian or Hittite period. Marsyas is probably connected with Morsynus, the river of Aphrodisias (cf. Ramsay, *C.B.* pp. 145, 153). Ramsay thinks there is no etymological connection between Morsynus and the town Mossyna, but Morstas may be related to the Lydian Moste or Mostene, which claimed a pure Lydian origin and is not identical with Mossyna. For literature on Mostene cf. K.P. I, pp. 5, 6; cf. also Μυστίνης and Μοστίνα in Hier. 671. Just as Masses is a variant of Marsyas (cf. Plut. *De Mus.* 7, 1133 f.) and Massyan a variant of the Marsyan plain (cf. Strabo, 753 f., and Ramsay, *C.B.* p. 348), so Moste may be a variant of Mosste or Morste or Marste (for interchange of -o- and -a- cf. Ramsay, *H.G.* pp. 147, 189, 353, 437; *E.P.* p. 366). The same root, Mors-, is found in Morsanda (Lanckoronski, *Pisidien*, No. 145; *C.I.G.* 4366 p.), in Μορσολέως and Μορσολέου (genitives, cf. Sterrett, *op. cit.* III, Nos. 289, 296; Kretschmer, pp. 304, 394). Perhaps the name of the Lydian king Myrsus is also related to Morstos (cf. *F.H.G.* III, p. 283, fr. 49; Her. I, 7). The Greeks called Kandaules (cf. Her. I, 7) Myrsilus, and this is probably the same as Mursil or Mursi-li (cf. *J.H.S.* XXIX,

1909, pp. 9 f.; Schubert, *op. cit.* pp. 18 f.; Winckler, *O. Lztg.* IX, 1906, p. 629; Fick, *Hattiden u. Danubier in Griechenland*, 1909, p. 16), which seems to be not only Lydian but also Hittite. Lydian and Hittite names go together (cf. Motella and Hittite Mutallu, Ramsay, *C.B.* p. 141). Sayce's decipherment in *Proc. Soc. Bibl. Arch.* XVII, 1895, pp. 41-43, Alus Mrshtl zul (a Lydian mercenary) now seems more certain in view of the -t- in Morstas.¹ Marsia, the name for a village near Limnae, should also be cited (cf. Ramsay, *E.P.* pp. 355, 367).

Na[γ]ριοα. — The traces of the third letter are those of -*E*- or better -*Γ*-. The name is entirely new and probably Lydian. It is difficult to see its connections, but probably they are Illyrico-Thracian as in several other names at Sardes. Perhaps we may compare in Lydia Nagidos (cf. *Denkschr. Akad. Wien*, 1896, p. 157), Nakrasa (Head, *op. cit.* p. 654), Naïs (cf. Ramsay, *J.H.S.* IV, 1883, p. 433; *C.B.* pp. 338, 570, 587 ff.; Buresch, *op. cit.* pp. 122, 203, has Νάνη, modern Ine), Na in Cilicia and Phrygia (cf. *J.H.S.* XII, 1891, pp. 229, 262; Ramsay, *C.B.* pp. 269, 327 [Anna = Ena], 338; also elsewhere cf. Kretschmer, p. 341). If Naerioa is read, then the ending -erioa would correspond to the termination -eira in Agroeira, Alloeira, Nisyreis, Tabeirēnoi, etc. (K.P. II, p. 60, and Nos. 52, 200). It would correspond to the Greek -ario or -erio. For the termination -ero- cf. Fick, *op. cit.* p. 33, and for the ending oa, which is indeclinable, cf. above s.v. *Kivapoα*. If -oa-, not -erioa, is the termination (and this seems more likely), then we should compare such names as Nora and Neroassus in Cappadocia (Diod. XVIII, 50; Strabo, 537), Noarus in Illyria (Strabo, 314, 318), Nar in Umbria (Strabo, 227, 235), Nerium in Spain (Strabo, 137, 153), Neritum in Ithaca, and Neritus in Leucas (cf. Pape, *Gr. Eigennamen*, s.v.), Neritanus in Illyria (*C.I.L.* III, 3558, cf. Nericus in Acarnania, and Kretschmer, p. 281), Naryandus in Caria (Pliny has Nariandus, cf. Fick, *op. cit.* p. 80, and Kretschmer, p. 310). But since the lower line of *E*, which appears in the photograph, is probably not ancient, we prefer Nagrioa.

Περιασασωστρα. — This is a compound of Peria and Sasotra. Peria probably means castle and is to be connected

¹ Thumb, in *A.J.A.* XV. 1911, p. 157, reads Alus mretlizul; cf. Sayce's own revision in *S. Bibl. Arch.* XXVII, 1905, p. 123.

with the Thraco-Phrygian word *bria*, meaning "town," cf. Ramsay, *J.H.S.* IV, 1883, p. 406; *C.P.* pp. 382 f., 577 f., 616; *E.P.* pp. 363 f.; cf. *Brea* in *I.G.* I, 31; cf. the Phrygian city *Bria*, the Thracian *Brea*, and the ending in such places as *Mesembria*, *Limnobia*, *Astibria*, *Salymbria*, *Poltymbria* (Ramsay, *C.B.* p. 577, has *Poltyobria*), *Alaibia*, *Menebria* (cf. Steph. Byz. s.v. *Μεσημβρία*, and Kretschmer, pp. 202 f.). *Briula* (*Πρίουλλα* in Hierocles, 659, 7) is a diminutive of *Brea* according to Tomaschek, 'Die Alten Thraker,' II (*Sitzb. Wiener Akad.* CXXXI, 1894), p. 63. *Bria* (or *berga*) occurs frequently in the Phrygo-Macedonian languages, and there was a cognate form *pria* or *perga*, the first seen in *Πρίαμος* and perhaps *Πριήνη* (*Ins. von Priene* p. vi), the latter in *Πέργαμος* and *Πύργος* (cf. also *R. Et. Anc.* VIII, 1906, p. 49; IX, 1907, pp. 175 f. on names in -*berga*, -*bria*). *Peria* is for *pria* from *bria* (cf. the Byzantine *Berianus* for *Brianus*, *Πρειζηνός* for *Πρεγηνός*, etc.; cf. Ramsay, *J.H.S.* I, 1880, p. 246; *Cl. Rev.* XIX, 1905, p. 426). The latter part of the compound recalls the inscription found in Lydia at Basch Bøjük, which mentions a *κατοικία Σασοτρέων* (cf. Buresch, *op. cit.* pp. 106, 108; *Museion*, 1884-5, p. 52; cf. also K.P. II, p. 115). From this Buresch rightly concluded that there was a village of the native name *Sasotra*, and possibly our *Periasasotra* was the name of the castle or fortress of that village, since there was a *tetrapyrgia* near by (cf. Kiepert's map in K.P. II). *Sasotra* belongs rather to the region of Philadelphia, but *Mnesimachus* seems to have had villages elsewhere than in the Sardinian plain (cf. above). We must wait for more evidence before the identification can be made certain. The names *Sasotra* and *Sasostra* are related to *Sasandra* in Caria and *Sasima* in Cappadocia. *Sōsandra* (cf. also, at Pergamum the personal name *Sōsandrus*, Polyb. XXXII, 27, 10; *O.G.I.* Nos. 315, 331) seems to be the Lydian form of *Sasandra*, and was the name given to an imperial estate near Mermere (cf. K.P. I, pp. 61, 64). *Sasostra* is a reduplication of *Sostra*, which is Thracian (cf. Tomaschek, *Die Alten Thraker*, II, p. 80; cf., also, the ending -*στορος* in *Δουρόστορος*, etc.; Kretschmer, p. 203). The resemblances to *Sasō*, an island off the Illyrian coast (cf., also, *Sasabaris*, etc.) and to the proper name *Sōstratus*, which occurs at Sardes

(cf. *O. G. I.* No. 305; in Lydia cf. K.P. I, No. 96; II, No. 183) are accidental. Fick-Bechtel, *Gr. Personennamen*, p. 258 rightly connects Sōstratus with the root Σω- (to save). The resemblance to Sesōstris (cf. Her. II, 106), who was supposed to have erected a monument on Mt. Sipylus (cf. Her. II, 106 f.; Ramsay, *H. G.* pp. 30, 60 f.; *J.H.S.* I, 1880, p. 83 f.; cf., also, the Egyptian Sasou; cf. *O. G. I.* No. 199, l. 33), is also probably accidental. For a similar ending to that in Sasōstra cf. Soatra, Satra = Σαύατρα; cf. Ramsay, *Jh. Oest. Arch. I.* I, 1898, Beiblatt, p. 95; Fick, *Vorgr. Ortsnamen*, p. 28; Kretschmer, p. 195, n. 2; Strabo, 568.

Σαρδιανὸν πεδίων. — This is the plain extending along the Hermus valley, below and east and west of Sardes. How far it extended we cannot be sure, but it can scarcely have been very large, since it did not include the plain of Kûpos or Κοῦπος, of the Castollus, or even of the Hermus (cf. Strabo, 626¹ and Kiepert's *Formae Orbis Ant.* IX). In this plain were situated Tobalmoura, Kinaroa, Ilou Oros, and probably some of the other villages and places mentioned in our inscription.

Τανδου. — This may be an indeclinable name; but even Tiamou, Pharnakou (cf. Strabo, 557), Tieiou (cf. Ramsay, *C.B.* p. 758), and Karou, which Ramsay (*C.B.* p. 169) thinks is perhaps of territorial origin, are now generally thought to be genitives; cf. K.P. II, p. 104. So it is better to understand κώμη as in Ἴλου κώμη (cf. above). As Hassoullier, *op. cit.* p. 108 remarks in commenting on Πάννου κώμη and Πύθου κώμη (*O. G. I.* No. 225) Tandus or Tandes, like Pannus and Pythes, was not a hero, but a plain mortal. So Τανδου means Tandus', i.e. the village of Tandus, who founded it or perhaps owned it. Tandus with its characteristic Asia Minor ending is perhaps to be connected with such names as Tanatis in Upper Moesia,

¹ ὑπόκειται δὲ τῇ πόλει τό τε Σαρδιανὸν πεδίων καὶ τὸ τοῦ Κύρου καὶ τὸ τοῦ Ἑρμου καὶ τὸ Καῦστριανόν, συνεχῇ τε ὄντα καὶ πάντων ἀρίστα πεδίων. In *Hellenica Oxyr.* VII, 3, τὸ πεδίων τὸ τῶν Λυδῶν probably includes all these πεδία. Cf., also p. 36, above. Beloch, *Gr. Gesch.* III, 1904, 2, pp. 385 f., thinks that the Κούρου πεδίων in *B.C.H.* XXIV, 1900, p. 380, the Κύρου πεδίων, and Κόρου πεδίων are all identical, but that Κούρου πεδίων (perhaps of Lydian origin) is the oldest form. This plain would, then, be near Magnesia where the Phrygius flows into the Hermus. Cf., also, Plut. *Ages.* 10 τὸ περὶ Σάρδεις πεδίων; *Eum.* 8 περὶ δὲ τὰς Σάρδεις . . . τοὺς Λυδοὺς ἐναγωνίσασθαι πεδίοις.

Tanadaris in Cappadocia, Tantaendia, Tanais, Tanis in Egypt, Tanakyllis = Tanaquil (Etruscan name of the wife of Tarquinius Priscus; cf. Pape, *s.v.*), Tanaoxares, son of Cyrus (Xen. *Cyr.* VIII, 7, 11), *Τανχοσδρώ* (general of Persians, Menander frag. 50 = *F.H.G.* p. 253), Tampas (*Reisen in Lykien*, II, No. 264), Tanopolis in Phrygia (Hierocles, 668, 15), Tanus in Crete (Fick, *op. cit.* p. 34), Tannetus, Tendēba in Caria (cf. also Tendessis = Phrygian Tandasis *B.C.H.* XVI, 1892, p. 224, Tenedos from Tennēs = Tendēs, cf. Fick, *op. cit.* pp. 64, 120). Tanagra (cf. Lycian Tānägurā, Head, *op. cit.* p. 690) and Tantalus (cf. modern Tandalu) are generally supposed to have a different etymology, but possibly there is an Asia Minor root -Tan- here also.¹ Perhaps it is the name of the god Tan, who is the same as Zeus, and appears on Cretan coins (cf. Head, *op. cit.* pp. 469, 475), though this is all very doubtful. We should hardly compare the Lycian Tun or the Assyrian Tuna, which perhaps explain the origin of Tyana and Tyndis; but since -ζ- often stands for -δ- (cf. Ramsay, *C.B.* pp. 293, 575, 585), we can connect the Thracian forms Tonzos, Tonzarma, etc.

Τοβαλμουρα. — The termination -moura may be compared with that in *Πάλμυρα* (= Tadmor), or in the Lydian Almoura (cf. Buresch, *op. cit.* p. 135). -Oura (to say nothing of -ura, -ara, etc.) is a common ending in Asia Minor names, cf. Karoura, Balboura, Anaboura, Koloura, Masoura, Astoura, Gazoura, Soura, Brittura, etc. (cf., also, such names as Eratura in Epirus, Korkoura in Illyria, and the many names in -aura or -ura). The termination is related to -ωρος, -ωρα, changing to -ουρος and -ουρα, which seem, as Mr. Arkwright points out, especially Paeonian. It is common in Macedonia, spreading into Illyria, the Illyrian parts of Italy, and Thessaly. It occurs rarely in Thrace, but frequently in Asia Minor, where it is almost confined to the northern part, though Meyer (*Die Karier*) mentions Koloura in Caria and Masoura in Pamphylia. In upper Moesia we have *Βρίττουρα* and *Τάρπωρον*, which are probably Dardanian; in Macedonia *Ἀλωρος*, *Ἀζαρος*, *Ἐλωρος*, *Ολως*, *Γάζωρος*, *Μίλκωρος*, *Πίλωρος*, *Θέστωρος*, *Ἰωρον*, *Ἐχειδωρος*, *Βυλάζωρα*, mostly Paeonian. *Ἐράτυρ* and *Βόλουρος* are

¹ Sayce, *Or. Lit.* XIII, 1910, 489 f., derives Tantalus from Tadalus, Greek for the Hittite Tid'al.

Epirotic. Another Βόλουρος, Κόρκουρα, Ἐψωρος, Tragurium, and probably Ὑπωρον in Bruttium and Manduria in Calabria are Illyrian. In Crete there are Ἐλυρος, Σάωρος, Pyloros, Κήσκωρα; in Asia Minor Κοτύωρα, Ἰβωρα (Pontus), Κύτωρος (Paphlagonia), Ἀγκώρη (Bithynia), Γαζίουρα (Pontus), Ἀνάβουρα, Κάρουρα (Phrygia). In Lycia we have only Βάλβουρα (not Lycian because of the initial B), but this is in Cabalia, which was Maeonian, and so identical with one element in the Lydian population. Balboursa certainly sounds like Tobalmoura (or Tbalmoura, as it is twice written in our inscription). The change of -m- to -b- is common in Asia Minor, cf. Mlaundus and Blaundus. Cf., also, Scythian *Νανο-βαλάμυρος* and Gothic *Βαλάμυρος*, Kretschmer, p. 342. At first we were inclined to take Tobalmoura as a compound from the Semitic Tobal and the ending -moura, Tobal-moura. The Tubal or Tobal (cf. Tobal-Cain) or Tabali of Assyrian inscriptions are identified with the Tibareni who lived beyond the Thermodon, on the southern shore of the Black Sea (cf. Her. III, 94; VII, 78; Ezekiel, XXXII, 26; Gelzer, *Das Zeitalter des Gyges*, p. 256; Garstang, *op. cit.* pp. 54, 61, 375). With the Tubal or Tobal might be connected not only Tobalmoura but also the Lydian Tabala (cf. for the site of Tabala K.P. II, pp. 119 f.), and the Persian name Tabalus (cf. Her. I, 153 f.; Paus. VII, 2, 10). Since, however, there must have been near Darmara a Lydian settlement, Almoura (the first example to be discovered of a place in Lydia ending in -oura, cf. Buresch, *op. cit.* p. 135, not in P.W.; cf., also, the proper name Ἀλμύρα in Buresch, *op. cit.* p. 51), the compound is surely Tob-almoura, and perhaps even the Tubal or Tobal (possibly a Hittite rather than a Lydian word) have the same root, -tob- with the common Asia Minor ending -al or -il (cf. Mursil, which is Hittite as well as Lydian). Tob might then be related to Lycian Tobora and Carian Tobororos (cf. *B.C.H.* IV, 1880, p. 304, l. 45; Kretschmer, p. 328), although compounds are not Lycioid; and to tab or taba, meaning rock in Caria, from which Kretschmer (p. 387) derives Tabala (cf. Steph. Byz. s. *Τάβαι*, *τάβαν γὰρ τὴν πέτραν Ἕλληνες ὀνομάζουσιν*; cf. Ramsay, *C.B.* p. 277). The same root is found in the Tabeirenoi (K.P. II, No. 52), in the name of the place near Magnesia on the

Maeander called ἡ ἐν Ταβάρνει πηγῇ (*Ins. von Magnesia*, Nos. 215, 251), in the Lydian Kastabalis (*Denkschr. d. Wiener Akad.* 1896, p. 25), Kallatēbos (Her. VII, 31; Steph. Byz. s.v.), Andabalis. Probably there was a Lydian word tob or toba, like the Semitic tob, or some Hittite word, but more probably a variant of taba (for interchange of -o- and -a- cf. references given above, s. *Μορστου*). Almoura may be compared with Almanā in Macedonia (probably Paeonian), Almene in Epirus, Almopia in Macedonia, Almus in lower Moesia, Mt. Alma in Pannonia. These comparisons agree with the Illyrico-Paeonian termination -oura, which we now know to have been used in Lydia. Possibly the Lydian Tomara is from Tobmara, which would be practically the same as Tobalmoura; but we must wait for further evidence before attempting to identify the two, especially since there is also a place called Almoura. In any case Tobalmoura is a pure Asia Minor name.

From the foregoing discussion it would appear that Lydian names contained a Lycioid as well as a European stratum (cf. Ramsay, *C.P.* p. 8, Radet, *Lydie*, pp. 260 f.; but it is perhaps Paeonian or Illyrian rather than true Thracian) seen in the many affinities with Phrygian names, such as Adrastus, Maneus, Sagarius, etc. Even the name Sardes may be due to Thracian settlers (cf. Wilhelm, 'Neue Beiträge zur gr. Inschriftenkunde,' *Sitzb. Wiener Akad.* CLXVI, 1911, p. 45; for other traces of Thracian settlers in Lydia cf. Radet, *La Lydie*, pp. 52 f., 67 f.; Strabo 649; *R. Arch.* XIV, 1909, II, p. 56). Probably there is also a third native or Lydian element. We know that Lydia was at one time conquered by the Lycians (Strabo, 627), and was always in close contact with Phrygia (cf. Kretschmer, pp. 205 f., 385 f., 388 f.; Steph. Byz. s.v. Ἀδραμύττειον). Further study of the inscriptions in Lydian script, which are coming to light in the Sardes excavations, will decide the nature of the Lydian language. At present, however, this seems related to Lycian, with which Carian has not the close relationship attributed to it by Kretschmer (cf. also Thumb, *A.J.A.* XV, 1911, p. 460). However, the differences in phonetic laws are so great that there is no practical identity of the Lydian and Lycian languages, and the resemblance of proper names may imply only a survival of the primitive language, as in the case

of Welsh proper names in Cornwall. Of Semitic influence there is but little, what appears Semitic being probably native. Of Persian influence such as Radet, *Cybébé*, p. 68, supposes, there are also but few traces.

VI. POINTS OF SOCIAL AND ECONOMIC INTEREST

(1) *Land Tenure*.—Many social and economic features of the inscription have been brought out in the foregoing remarks; but, since this is a very important document relating to agrarian conditions and temple administration in Asia Minor, it seems advisable to devote a paragraph to its significance in those aspects. Mnesimachus is not absolute owner of all the lands enumerated, for in II, 13, it is stated that the king (*i.e.* Antigonus) can take them away from the temple *διὰ Μνησίμαχον*, *i.e.* by taking them away from Mnesimachus. The king, then, was the freehold owner, and, since no dependence on Sardes is mentioned, while the characteristic *φόρος* is specified, the villages must be part of his *βασιλικὴ χώρα* (cf. Rostowzew, *R.K.* p. 247). He had granted these places to Mnesimachus, who probably was some Greek or Macedonian officer or other person of very high rank standing in close relation with the king. In 319 B.C. Antigonus, then *strategos* of Asia, *διέγραψε τῶν ἀξιολόγων φίλων οἷς μὲν σατραπείας οἷς δὲ στρατηγίας* (Diod. XVIII, 50, 5; cf. the Greek or Macedonian officers who supported Antigonus in 302, Docimus, Phoenix, Philip, Diod. XX, 107, 4–5). So he may well have made gifts of land even as early as 319 B.C. The Hellenistic rulers looked upon the territory which they had conquered as belonging to them, and confiscated it from the original owners or parcelled it out to their officers and friends as they pleased (cf. Rostowzew, *R.K.* pp. 249 f., 251 f.; *O.G.I.* Nos. 221, 225, 262; *Syll.* No. 929, ll. 133 f.). But the villages or lands given were probably taxed, as Rostowzew (*R.K.* p. 252) has conjectured. Whether the lands that Mnesimachus received belonged in former times to the temple itself or to other proprietors, either the Persian king or his satraps or other officers (cf. Rostowzew, *Klio*, I, 1901, p. 297; Haussoullier, *Rev. d. Phil.* XXV, 1901, p. 39), it is impossible to decide; but very likely they were taken from our temple soon after Alexander conquered

Sardes. In 262 B.C. a sixth of all the produce of the vineyards and orchards was transferred from the gods of Egypt to Queen Arsinoe (cf. Grenfell, *Revenue Laws of Ptol. Phil.* 1896, pp. xxxii, 22, 94 etc.; Wilcken, *Gr. Ostrakr.* I, p. 157; for the temple estates see Ramsay, *C.B.* p. 354; *E.P.* p. 305, and references there and in Rostowzew, *R.K.* pp. 273, 280 f.; cf. also Ps. Arist. *Oec.* 1350 b, 1352 a, *O. G. I.* No. 440, note 3). In fact, our inscription, which mentions in I, 14, an ἀλλή, as having been given to Pytheus and Adrastus, furnishes a very striking commentary to the passage in Plutarch's *Eumenes*, 8 (cf. commentary on I, 14), where Eumenes, after his victory over Craterus (soon after 322 B.C.) made a halt at Celaenae in Phrygia, and to provide pay sold or gave to his captains the farmsteadings and fortified country-houses (ἐπαύλεις = αὐλαί), and provided siege-engines to take them (cf. Ramsay, *C.B.* pp. 419 f.; Rostowzew, *R.K.* p. 253; cf. also Ps. Arist. *Oec.* 1350 f.). So Antigonus may have distributed among his officers the lands which had fallen under his control as general overseer of Asia Minor and satrap of Phrygia, many of which had probably been confiscated by him, and some of which may even have belonged to the temple at Sardes. In our inscription, then, we have the two methods employed by Hellenistic kings for granting fiefs to their officers: (1) hereditary tenure subject to φόρος, with the king as overlord; (2) absolute ownership such as was granted to Aristodicides and Laodice, (*O. G. I.* Nos. 221, 225). The first was more usual, and corresponds to the μίσθωσις εἰς τὸ πατρικόν or lease on hereditary tenure for an indefinite period (cf. note to *Tebt. Pap.* I, No. 5, l. 12; Rostowzew, *R.K.* pp. 28, 39). By this tenure Mnesimachus held the κῶμαι and κλήροι, which could be sold or mortgaged notwithstanding that they were not freehold. Such sales of royal land were fifty years later recorded at Sardes (cf. *O. G. I.* No. 225, l. 24, τὴν ὠνὴν ἀναγράφαι εἰς τὰς βασιλικὰς γραφάς, ab. 250 B.C.). There must also in our period have been a record office, probably on the acropolis, as Dittenberger, *l.c.*, suggests, where the more detailed documents were preserved; else the descriptions of land in our text would scarcely have been so vague (cf. Hirschfeld, 1893, *Ins. Brit. Mus.* IV, 1, p. 71). In Egypt also grants of crown land were made subject to an annual rent, yet could be sold by

the tenant (cf. *Oxyr. Pap.* IV, No. 721, and references there). Under the second system of absolute ownership, Mnesimachus held probably the *αὐλή* at Tobalmoura, and certainly the *παράδεισοι* and the *οἰκόπεδα* of I, 11, 16, which were not subject to *φόρος* like the lands held by hereditary leasehold tenure (cf. *O. G. I.* No. 225, ll. 12 f. οἱ παρ' αὐτῆς περιάμενοι ἢ λαβόντες αὐτοὶ τε ἔξουσιν κυρίως; in No. 221, l. 28, δοῦναι means to give outright, as distinguished from ἐπιχωρεῖν, l. 54, to grant subject to *φόρος* (cf. commentary on I, 2). Among the properties granted to Mnesimachus are the following: (a) First the *κῶμαι*, i.e. tracts of land which belong to a native village, have a native name, and are probably not laid off by metes and bounds. These villages and their inhabitants, the *λαοί*, form a unit (cf. Rostowzew, *R. K.* p. 248; *Petrie Pap.* III, p. 26, l. 101, etc.), and are granted by the king on condition that they pay certain fixed annual dues or rentals (*φόροι*). Later, but probably not in Hellenistic times, they had their own magistrates and revenues, passed their own decrees, and sometimes several villages formed part of a city to which they paid tribute (cf. *B. C. H.* IX, 1885, p. 395; Ramsay, *C. B.* I, p. 124). (b) Different from the *κῶμαι* are the *κλήροι*, which form a second category. These are measured allotments or holdings of land which were granted or distributed by lot to soldiers, officers, etc., as in Egypt, where the word often occurs in papyri; cf. also, for Asia Minor, *O. G. I.* No. 229, ll. 100 f., No. 502. To them belong the *οἰκόπεδα* (often in papyri), which are small plots of land on which houses can be built, but which can also be cultivated (cf. Wilcken, *Gr. Ost.* I, p. 390, and also, *Syll.* Nos. 177, 933, also No. 155, which seems to show that *οἰκόπεδα* were arable land). They are not populated with *λαοί* like the *κῶμαι*, but consist, perhaps, principally of garden-land. On the whole subject of *κλήροι* cf. Bouché-Leclercq, *Hist. des Lagides*, III, pp. 231 f. Two *κλήροι* only are mentioned, one at Kinaroa (I, 6), near Tobalmoura, which was in the Sardian plain; another at Na[g]ria in the district called Μορσπου Ἰδωρ (I, 8). The first paid a *φόρος* of three gold staters, probably to the chiliarchy of Pytheus, the other a *φόρος* of three gold staters and four gold obols to the chiliarchy of Sagarius. These rentals compared with those of the villages are so low that the *κλήροι* must have been fairly

small (cf. below). From the particulars given as to φόροι we see how the system of collecting revenue from the χώρα βασιλική was organized. The κλήρος as well as the κώμη as such paid a fixed sum, each to the chiliarchy in which it lay. This explains the system mentioned in the letter of Alexander to Priene (*O. G. I.* No. 1), where the inhabitants in the villages were understood to pay the φόρος separately as individuals (cf. Rostowzew, *R. K.* pp. 243 f.), whereas they doubtless paid it collectively, as in our case, according to κώμαι. From *O. G. I.* No. 502 (cf. note 3), it is apparent that the Seleucid kings cut even temple lands into κλήροι. In Egypt the κλήροι as in II, 12 of our inscription could be confiscated by the crown (cf. *Oxyr. Pap.* IV, No. 721, ll. 4 f., κλήρων ἀνειλλημμένων, and *ibid.* 730, *Petrie Pap.* III, Nos. 104–106). (c) As a third category the inscription (II, 5) mentions χωρία, lands or estates (Cf. Rostowzew, *R. K.* pp. 288, 293). Such is the χωρίον in col. I, which at the διαίσεις or distribution, probably soon after Alexander's conquest of Sardes, Pytheus and Adrastus had received as their selected and special property (ἐξαίρημα). It had in some way probably come into the possession of Mnesimachus. This χωρίον consists of the αὐλή (cf. commentary on I, 14) and the properties outside, and belonging to it. Here live the serfs or λαοί (cf. Rostowzew, *R. K.* pp. 259 f.) and the slaves (οἰκέται), who cultivate the land, which is not specifically described. Especially mentioned are the measured plots (I, 15) of garden or orchard land, παράδεισοι (an Asia Minor word, though it occurs also often in Egyptian papyri; cf. commentary on I, 15), and οἰκόπεδα requiring so and so many Persian ἀρτάβαι of wheat to sow. The unit of area is the amount of land which one artaba will sow. The word σπόρου after παράδεισοι and οἰκόπεδα (I, 15, 16) indicates a method of rough measurement, and does not imply that land so measured is all arable (cf. below). In 326/5 B.C. we have a similar method at Gambreum near Pergamum, and at Aphrodisias (first century A.D.); cf. *Syll.* No. 155, l. 15, σπόρου κύπρων ἑκατόν, etc.; cf. *R. Ét. Gr.* XIX, 1906, p. 237, ll. 13, 20, 21, 26, etc. *Lille Pap.* I (1907), p. 48, No. 5, shows that the βασιλικοὶ γεωργοί received seed at the rate of one Egyptian artaba per aroura. The whole χωρίον above described probably belonged also to the property which Mnesimachus mortgaged. No φόρος

is mentioned, because such special grants like those of Laodice and Aristodicides (cf. *O. G. I.* Nos. 221, 225) are free from all rentals payable to the crown. All these properties together make up the fortune or estate (*οἶκος*) of Mnesimachus, which is handed over *en bloc* to our temple at Sardes, just as Thraseas ceded to the temple of Zeus Ὀσογῶα certain lands on which he was to pay an annual φόρος, though in this case he remained proprietor; cf. *B. C. H.* V, 1881, pp. 108 f.; Graindor thinks this practice was not so frequent as Pridik believed (*B. C. H.* XXX, 1906, p. 446). For property and funds belonging to temples cf., for example, Le Bas-Waddington, *Ins. d'Asie Min.* Nos. 327, 331, 332, 338, 414, 415, 416, 419, etc. *Tebt. Pap.* I, No. 86, l. 52; and Newton, *Essays on Art and Archaeology*, pp. 143 f., 150 f. On the functions of temples in the agrarian life of Asia Minor, cf. Rostowzew, *R. K.* pp. 269 f.; for the possessions of Egyptian temples cf. Otto, *Priester und Tempel im Hellenistischen Aegypten*, pp. 259 f., 262 f., 278 f.

(2) *Revenues of Landed Proprietors.* — The income of the landlord consists in our case partly of the dues paid by the λαοί in money, in kind, and in labor, partly of the revenue from the work of the slaves, who, perhaps (cf. I, 17 f.), manage the estate themselves and who from their names must be natives. It is probable that they worked on the κλήροι and παράδεις, where their labor was aided by the *corvée* work of the serfs, and that they cultivated chiefly figs, olives, grapevines, and fruit trees (cf. *Ath. Mitt.* XIV, 1889, p. 370; *B. C. H.* V, 1881, pp. 108 f.; XII, 1888, pp. 23 f.). So in I, 10 f. καὶ τῶν ἀγγείων τῶν οἰνηρῶν might refer to the κλήροι, though it seems better to connect it with the κῶμαι, and to regard these ἀγγεία as contributed by the λαοί. As items in the landlord's revenue there are then (1) the raw products, consisting of fruits and produce (καρποὶ καὶ γενήματα; cf. II, 8 and *Oxyr. Pap.* II, No. 277, l. 6), which could be sold, and which correspond to the Egyptian σιτικὴ μίσθωσις or πρόσσδος (cf. *Tebt. Pap.* I, No. 5, l. 11, and references there; Rostowzew, *R. K.* pp. 27, 28, 31, 38, 47, 52, 139). There are (2) the prepared products, consisting chiefly of wine in jars (ἀγγεῖα οἰνηρά), which could be sold or taxed (cf. *Rev. Laws.* p. lv). There is (3) the cash rental or tribute (φόρος ἀργυρικός) paid by the λαοί to the landlord

and which he in turn uses for paying in cash the φόρος due to the crown on his villages and allotments. For φόρος as rent cf. Wilcken, *Gr. Ost.* pp. 312, 319, 320. Similarly, the rent of Egyptian crown land consists in σιτική μίσθωσις plus ἀργυρική πρόσδοσις (cf. *Tebt. Pap.* I, No. 5, l. 11, and references there; *O.G.I.* No. 90, ll. 12, 14, 15, 21; *Amherst Pap.* II, p. 35, No. 31, ll. 6, 7; *Oxyr. Pap.* II, p. 291, No. 291, ll. 3 f; *Berl. Gr. Urk.* II, p. 182; Rostowzew, *R.K.* pp. 27, 28, 37, 58; ἀργυρικός φόρος in *Eleph. Pap.* No. 14, l. 3; also in Le Bas-Waddington, *op. cit.* Nos. 323, 324, where it means rent paid in money). There is (4) the labor rental or *corvée* (φόρος λητουργικός, I, 12). λητουργός here simply means a workman, and has no technical sense as at Athens. The λητουργικός φόρος was in Egypt some kind of personal service, which the poor rendered, and in lieu of which the wealthy paid a λητουργικόν; cf. Wilcken, *Gr. Ost.* I, 382; Arist. *Ath. Pol.* XXIX, 5; *Tebt. Pap.* Nos. 5, 32, 88, l. 3, ἡμέραι λητουργικαί; No. 102, *Petrie Pap.* II, No. 39 e, III, 1905, No. 109 f.; *Hibeh Pap.* p. 269 with references; Bouché-Leclercq, *Hist. des Lagides*, III, p. 234; *Paris Pap.* No. 63, where we have a *corvée* on beasts of burden; *Oxyr. Pap.* I, No. 86, where the λητουργία is hereditary, and consists of providing rowers on the Nile; *Oxyr. Pap.* III, No. 506, where the λητουργία is to cultivate crown land, and was apparently attached to the land, not to the person of its tenant καθαρὰν ἀπὸ πάσης γεωργίας l. 37; cf., also, *Ins. von Pergamon*, No. 49, l. 15. This sense must be distinguished from that in *Syll.* No. 177, l. 68; No. 426, 36; *O.G.I.* No. 383, ll. 74, 185; 566, l. 11; 339, l. 50; 383, l. 170; 529, l. 3; 537, l. 10; 542, l. 9; K.P. I, No. 99, where λητουργία means some public office or service, that is πολιτικὴ λητουργία. Of still a different nature are the χωρικά λητουργίαι in Egypt (cf. *O.G.I.* No. 669, l. 34; Rostowzew, *R.K.* pp. 86, 199, 203, 204, 206, *Staatspacht*, p. 465 f. On liturgies in general, cf. Mitteis und Wilcken, *Grundzüge und Chrestomathie d. Papyruskunde*, I, 1, pp. 339–355). What kind of personal service the λαοί in Asia Minor were obliged to perform, we cannot decide. So many days' labor in cultivating their lord's gardens or fields seems to be the duty most likely to have been imposed on them; but our inscription supplies the first definite proof that, like the coloni in Africa in Roman times, they did render

personal labor in addition to paying a money tax, and it thus furnishes an argument for the Hellenistic derivation of the African system (cf. Rostowzew *op. cit.* pp. 302 f.; Meyer, *Klio*, I, 1901, pp. 424-426; Theocr. XVII, 97).

(3) *Status of Agricultural Population.* — The λαοί are the principal factor in the villages. They are the native agricultural population or serfs, who, with the ground, their houses, and possessions, belong to the tenants, and so to the king. They are described in *O. G. I.* No. 1, l. 14, as τοὺς δὲ κατοικοῦντας ἐν ταῖς κώμας (cf. *Taur. Pap.* VIII, 23, τοὺς δ[ουλεύοντ]ας καὶ ἐργαζομένους ἐν ταῖς ἐκάσ[των] κώμας). They are often also called βασιλικοὶ λαοί, as well as simply λαοί (cf. *O. G. I.* No. 221, l. 46 f.; Haussoullier, *Rev. d. Phil.* XXV, 1901, pp. 33 f.; Rostowzew, *R. K.* pp. 258-265; *Klio*, I, 1901, pp. 297, 424). In Egypt, however, they are sometimes distinguished from the other γεωργοί (cf. Meyer, *Das Heerwesen der Ptolemäer*, pp. 109 f.; *Klio*, I, 1901, p. 426). If the king gives or sells a part of the royal domain, the λαοί who belong to it also pass to the new proprietor. They were an unfree peasantry, like the *coloni* and mediaeval villeins, but they had money, since they paid a cash φόρος (cf. Rostowzew, *Klio*, I, 1901, p. 297), and by payment of money could release themselves from the required manual labor or villeinage (cf. Meyer, *Klio*, I, 1901, p. 426). They must also have owned tools for agriculture, etc. (τὰ ὑπάρχοντα πάντα), and perhaps even their houses. This we infer from the characteristic phrase τῶν λαῶν πανοικίων σὺν τοῖς ὑπάρχουσιν (cf. *O. G. I.* No. 225, ll. 5, 23, for two instances of the very same phrase; cf. also λεὼν αὐτοικον in *Gr. Dialektinschriften*, No. 5533e; Rostowzew, *R. K.* p. 261). The λαοί had civil rights, could keep part of their crops, and even move to another place; but they still remained serfs to their first proprietors (cf. *O. G. I.* No. 225, l. 8; *Klio*, I, 1901, pp. 297, 424 f.; Haussoullier, *Rev. d. Phil.* XXV, 1901, p. 34). The λαοί were probably under the superintendence of the οἰκέται, who were slaves, but being few and mentioned here by name, were probably skilled and of high class. They may even have acted as stewards or bailiffs. There are four at Tobalmoura (cf. I, 17, 18), two at Periasasostra, and perhaps several others in the part of Col. II which has been erased. All have their father's name added, and

Tuius his grandfather's (cf. *B.C.H.* XV, 1891, pp. 365 f. for slaves with patronymics).

(4) *Administration of Temple Funds and Property.* — Our inscription furnishes additional evidence that the Greek temples, with their rich treasures, performed the function of banks; cf. for Delos, 279 B.C., Homolle, *B.C.H.* XIV, 1890, p. 438; cf., also, Otto, *op. cit.* pp. 318 f., Swoboda, *Wiener Studien*, X, 1888, pp. 278 f.; XI, 1889, pp. 65 f.; Mitteis, *Sav. Ztschr. Röm. Abt.* XIX, 1898, pp. 198 f.; Büchschütz, *Besitz und Erwerb im gr. Altertum*, pp. 506–509; *Forschungen in Ephesos*, I, pp. 261, 279. While the temples, as we have said, probably lost their great landed estates at the Macedonian invasion, they do not seem to have been despoiled by the Macedonian kings of their cash and their treasures, probably because the economic functions of such capital were too important, and its loss might have paralyzed the life of the districts depending on it. They doubtless still owned many lands (cf. above, and Ramsay, *C.B.*, p. 102), but how they acquired them is difficult to say (cf. *B.C.H.* XIV, 1890, p. 434; XXV, 1901, pp. 137 f.). They could lend money on mortgage, — and if the debtor did not pay back the debt within a fixed period his property could be sold (cf. *B.C.H.* IV, 1880, pp. 302 f.; Otto, *op. cit.* pp. 279), — or without mortgage as in παρακαταθήκη. They could invest in lands themselves and rent them out (*B.C.H.* V, 1881, p. 114; XIX, 1905, pp. 437 f; XXX, 1906, pp. 446 f.), or they could invest in the improvement of these lands (cf. οἰκοδομήματα καὶ φυτεύματα, II, 10, and πεφυτευμένα καὶ οἰκοδομημένα, *Inscr. Jur. Gr.* I, p. 202, l. 112). Their lands with the λαοί, slaves, etc., were administered like those of individual owners (cf. Rostowzew, *R. K.* pp. 269 f.), and the temple funds were under the control of temple-wardens (νεωποῖαι), who were like a board of directors or trustees (cf. Bourguet, *Administration financière du sanct. pyth.* 1905, pp. 65–109; Swoboda, in *Wiener Studien*, X, 1888, pp. 306, 307, has shown that the νεωποῖαι not only had charge of building and repairing temples, but also of the sacred funds; cf., also, commentary on I, 2).

VII. LEGAL POINTS

(a) *Deposit-loan* (παρακαταθήκη). — Παρακαταθήκη here (I, 3; II, 11, 13, 18) denotes the receipt for safe keeping of a sum of money which the recipient binds himself to return to the depositor with or without interest on demand. It was equivalent to the Roman *depositum irregulare* (Mitteis, *Sav. Ztschr.* XIX, 1898, pp. 209–212), and was one of the methods of making a loan. In this way Mnesimachus borrowed from our temple treasury the 1325 gold staters. We have here translated this term “deposit-loan,” in order to distinguish it from true *depositum* (also παρακαταθήκη in Greek), in which the deposit was not money, but a definite object. Παρακαταθήκη was the classical term (*e.g.* Her. II, 156; Isocr. *Trapez.* 13; *Syll.* No. 53, l. 15; Michel, *Rec.* No. 496, ll. 50 f.), and is found but seldom in the papyri (*e.g.* *Oxyr. Pap.* I, No. 71, l. 6), where the usual term is παραθήκη. The deposit-loan made to Mnesimachus was doubtless accompanied by a written agreement (like those of which several later specimens have survived; see Mitteis-Wilcken, *Grundz. u. Chrestomathie*, II, 2, 1912, Nos. 330–336 = *Oxyr. Pap.* VII, 1910, No. 1039 and references) providing that on his failure to repay the 1325 staters his property should be liable to execution for twice that amount. To avoid this result and to gain time he satisfied the goddess by mortgaging his estate.

Our document brings out several points connected with this contract: (1) A deposit-loan was then, as in later times, repayable on demand (ὅποτε ἐὰν αἰρήται, Berger, *Strafklauseln*, p. 103, n. 3; ὁπηνίκα ἐὰν αἰρή, *Oxyr. Pap.* VII, No. 1039, l. 9). It is the demand made by the temple-wardens (I, 3), not the expiration of the time for which the loan was made, that compels Mnesimachus to satisfy them.

(2) Παρακαταθήκη was in use at this period for the lending of money at interest, since there can be no doubt that Mnesimachus paid interest on his original deposit-loan. This may be inferred from the mention of principal (ἀρχαῖον, II, 13), which implies interest (τόκος) as its accompaniment (*cf.* τὸ ἀρχαῖον καὶ τοὺς τόκους, Isocr. *Trapez.* 37; τὸν τόκον ἢ τὸ ἀρχαῖον, *Syll.* No. 517, l. 19; *cf.* also, *Ins. Brit. Mus.* No. 481, ll. 149–192), as

well as from the stipulations in II, 8–10, 16–18, designed to protect the goddess from loss of the annual income on her investment. We know also that temples such as that of Artemis administered their sacred funds like those of a bank, and placed them only where they would yield a good return. In our case the rate must have been at least 10 per cent a year, possibly 12 per cent (Billeter, *Gesch. d. Zinsfusses*, pp. 19, 58). No arrears being mentioned (II, 13, 14), we may assume that Mnesimachus had paid the full interest on his deposit-loan up to the date of the mortgage. After the conveyance had been made the interest on the debt was of course replaced by the use and enjoyment of the land; cf. Wilcken und Mitteis, *op. cit.* II, 1, p. 153.

(3) The contract of παρακαταθήκη must at this period have been equipped with the same penalty for non-payment as in the first and second centuries A.D., when the papyri show that the defaulting debtor was liable for twice the amount of the original loan.¹ Unless at the date of our document some such penalty had been imposed by law, it is hard to conceive for what purpose the stipulations of II, 11, 18 (ἔστω ἐν παρακαταθήκῃ) could have been framed, whereas on the assumption of a *poena dupli* entailed by non-payment, they are perfectly intelligible.² Such clear circumstantial evidence is important, since the existence of the penalty at so early a date as 300 B.C. has been seriously doubted. The stipulations in clauses E and F (above, p. 21) are thus seen to have been imposed by the creditor because they had the merit of extreme harshness.

(b) *Sale subject to redemption*³ (πρᾶσις ἐπὶ λύσει). This method, adopted by Mnesimachus, of giving a mortgage under the guise of a sale, was in use as early as the fourth century B.C. in Attica, Lemnos, and Amorgus: ⁴ our inscription supplies the

¹ Beauchet, *Hist. du droit pr. de la rép. athén.* IV, p. 329; Mitteis, *Sav. Ztschr.* XXVIII, 1907, p. 384; Partsch, *Gr. Bürgschaftsrecht*, I, p. 84; Berger, *Strafklauseln*, 1911, p. 103; Mitteis-Wilcken, *op. cit.* II, 2, Nos. 331 and 332.

² We owe this inference to Professor Mitteis.

³ Though "mortgage," in its strict common-law meaning, — *i.e.* of an absolute conveyance subject to defeasance in case the debt is paid, — would be an excellent rendering of πρᾶσις ἐπὶ λύσει, we refrain from using it in that restricted sense, because it is so often used as equivalent to ὑποθήκη.

⁴ Szanto, *Wiener Studien*, IX, 1887, pp. 279 f.; R. Hitzig, *Das gr. Pfandrecht*, 1895, pp. 76–107; B. Kübler, *Sav. Ztschr.* XVI, 1895, pp. 344–350; L. Beauchet, *op. cit.* III, 1897, pp. 176–194; P. Guiraud, *Mélanges Perrot*, 1903, pp. 146–148;

first instance yet found of its use in Asia Minor. Though the evidence is scanty, consisting chiefly of inscribed *horoi* (Beauchet, *op. cit.* III, p. 345) and of a few passages from Attic speeches, the general character of the transaction has long been clear.¹ The property given as security was, as the term implies, sold to the creditor, on condition that the debtor might within a fixed time redeem it by paying back the price; in other words, the amount of his debt. Many details have however been obscure, owing to the lack of a specimen contract such as this inscription for the first time supplies.

The following information as to *πρᾶσις ἐπὶ λύσει* is furnished by our document :

(1) Whether upon redemption the property reverted to the debtor, or had to be reconveyed to him by the creditor, is a question which the evidence has hitherto not enabled us to answer. It is now clear that the latter was the case; inasmuch as the property was conveyed to the creditor outright with full warranty, a reconveyance must have been needed to divest her of the title.

(2) From II, 10-11, 15, 16, we learn that the powers of the creditor over the property conveyed to her were very broad. She had the right to spend money on it in building, cultivating, and for other purposes; and the debtor's assent was not required, even though he was ultimately to pay the bill. The extent of the creditor's power over the property is further shown by the absence of stipulations guarding against loss from her acts or omissions. If during her ownership the property had been in any way injured or depreciated, the debtor would have received no compensation. Our analysis has shown that no compensation clause was contained in the lost parts of the document.

E. Rabel, *Sav. Ztschr.* XXVIII, 1907, pp. 354-371; A. Manigk, *Ib.* XXX, 1909, pp. 306 f.; D. Pappoulias, *ἡ ἐμπράγματος ἀσφάλεια*, pp. 28-38, 53-55; E. Weiss, *Pfandr. Untersuchungen*, I, 1909, pp. 21 f.; J. Partsch, *Gr. Bürgschafts.* 1909, pp. 256-259; O. Eger, *Sav. Ztschr.* XXXI, 1910, pp. 467 f.; A. B. Schwarz, *Hypothek u. Hypallagma*, 1911, p. 35, nn. 2 to 4.

¹ The literary sources are collected by Hitzig, Beauchet, and Pappoulias. The *horos* inscriptions are in *Inscr. jur. gr.* I, pp. 112-116; Michel, *Recueil*, Nos. 1364 to 1375; *Berl. Sitzungsber.* 1897, pp. 665-669; 1898, pp. 782-783; *I.G.* XII, viii, 18, 19, 20, 21, 22 (Lemnos); Robinson, *A.J.P.* XXVIII, 1907, p. 431. See also *Syll.* Nos. 818 ff., and *Ath. Mitt.* XXXV, 1910, p. 106, n. 3.

(3) From II, 10-11, 15, 16, we may also infer that, before the property could be redeemed, the debtor had to make good all expenses incurred by the creditor in connection with it. This fact probably explains why the *φόροι* payable on the lands conveyed are so carefully recorded (I, 5-10). If the king might confiscate, he might also, no doubt, increase the *φόροι*. Had this occurred in our case, Mnesimachus would doubtless have been compelled before redemption to refund, as part of the goddess' outlay on the property, any rent paid by her in excess of 116 gold staters 7 obols, the total rent-charge at the date of our conveyance.

(4) From II, 4-5, it appears that the debtor's failure to protect any part of the property from eviction, or any breach of contract on his part, entailed the entire forfeiture of his right to redeem. Thus the inducement to the grantor to defend the title of his grantee seems to have been stronger in this form of mortgage than in an ordinary sale, where he had only the *poena dupli* to fear.

(5) The provisions in II, 8-10, 16-18, tend to show that, in addition to the debt and the indemnity for the creditor's outlays above mentioned, the debtor was required at the time of redemption to pay also the proportion of revenue accrued up to that date. Redemption taking place before the harvest would, no less than eviction, have debarred the creditor from gathering the fruits of the soil for that year. Hence we may be sure that redemption cannot have been allowed, without compensation to the creditor for income accrued but not received.

(6) The fact that, in the event of the loss of property conveyed, it was necessary to revive the original debt by express stipulation (II, 13-15) shows that the debt, by being transformed into purchase money, had been completely wiped out. The creditor no longer looked to the debtor's liability, but only to the value of the property which she had accepted. If after the conveyance the property had been taken from her, the creditor, unless protected by such a clause as that in II, 13-15, would have lost both her debt and her security.

(7) While *πρᾶσις ἐπὶ λύσει* was thus from one point of view a genuine sale for a real price, in which the preëxisting debt

disappeared, the Greeks did not forget that it was also a mortgage. This double aspect accounts for the characteristic use (II, 12) of ὑποκειμένων, instead of πεπραμένων; like that of τόκος, in Dem. XXXVII, 7 and 29, to describe the *rent* paid by Pantaenetus on the property conveyed by him under a πῤῶσις ἐπὶ λύσει.

(8) The stipulations of which the effect is explained above (pp. 60 f.), whereby the indemnities for the goddess' outlay and loss of revenue are to be treated as deposit-loans (ἐν παρακαταθήκῃ, II, 11-18) contain nothing peculiar to πῤῶσις ἐπὶ λύσει as such. They were, we may suppose, framed in this fashion simply because, the principal debt having been a deposit-loan, it was to the creditor's advantage to treat these accessory debts as loans of the same kind.

(9) The fact that the right of redemption needed to be barred by special stipulation (II, 2) implies that, in the absence of such stipulation, it would have been allowed at any time. In this respect, as in several others, we may compare the Scottish form of mortgage known as an "absolute disposition with back-bond" (Gloag and Irvine, *Law of Rights in Security*, 1897, Chap. IV, on "Dispositions ex facie absolute"). By this, as in πῤῶσις ἐπὶ λύσει, the property is conveyed outright to the creditor, the fact that the transaction is not a sale but a mortgage being noted in a "back-bond" or "back-letter." Until redemption the creditor remains in full ownership of the property, which may be redeemed at any time, though, if not exercised within forty years, the right of the debtor to demand a reconveyance, on payment of the sum due, is finally lost by prescription. Rabel (*l.c.*) has pointed out the resemblance between πῤῶσις ἐπὶ λύσει, the old French mortgage, and the English common law mortgage; but this Scottish form, still in constant use at the present day, offers an analogy quite as remarkable.

(c) *Warranty of Title* (βεβαίωσις).—Particularly interesting because of its fulness is the clause of warranty (II, 2-12), which throws light on the following points:¹

¹ On βεβαίωσις and the *stipulatio duplae*, see Thalheim in *P. W.* III, 1899, 178; Rabel, *Haftung des Verkäufers*, I, 1902, pp. 7, 23, 36, 146; Berger, *Strafklauseln i. d. Papyrusurk.* 1911, pp. 126 f.; Wilcken und Mitteis, *op. cit.* II, 1, p. 188.

(1) It confirms the view that *πρᾶσις ἐπὶ λύσει* had the same form of warranty with the same penalty as an ordinary sale (cf. Hitzig, *op. cit.* p. 79).

(2) In case of an attempt to evict the vendee, it was the vendor's duty, as his representative, to conduct the legal proceedings necessary to uphold his title. Our clause seems to show that with this duty went a corresponding right in the vendor to direct these proceedings, since it provides that in case of his default, the vendee might thenceforth direct them himself.

(3) Since there is no mention of any guarantor (*βεβαιωτής*; see Partsch, *Gr. Bürgschaftsr.* pp. 340–358), our clause confirms the view that in sales of land at this period it was not essential for the vendor to provide one or more guarantors to support his undertaking of warranty.

(4) The main interest of our clause lies in its containing at this early date a *stipulatio duplae*, by which the penalty for breach of the vendor's warranty of title was fixed at double the purchase price. In the Greek papyri produced under the influence of Roman law during and after the first century A.D., such a stipulation is often found (Berger, *op. cit.* p. 128, collects the instances); but this — the earliest example except one¹ of its use in Greek law — dates from a time when the influence of Roman law cannot possibly have been felt.

(5) A feature common in papyrus documents is that by which, in case of breach of warranty, an indemnity for the vendee's damages and outlays (*βλάβη καὶ δαπάνηματα*) is exacted from the vendor in addition to the twofold price (*τιμὴ διπλῇ*). This additional penalty is here seen to have existed in our period (Berger, *op. cit.* pp. 26, 133).

VIII. THE CHILIARCHIES

From I, 5–10, we learn for the first time that the satrapy of Lydia was, about 300 B.C., divided into districts governed each by a chiliarch and each forming a centre for fiscal administration. The place-names indicate that the area of each chiliarchy

¹ The only other early instance is that of the Gortynian code, Bücheler-Zitelmann, *Rh. Mus.* XL (*Ergänzungsheft*), 1885, pp. 26, 68, 174; Berger, *op. cit.* p. 132.

was large. That of Pytheus (I, 5) probably covered the Sardinian plain adjoining Sardes to the west, the city itself, and perhaps also the country surrounding it; that of . . . arios (? I, 7) may have included Sasotra — probably the same as our Periasasotra (see p. 47, above) — in the eastern part of the satrapy, while that of Sagarius (I, 9) probably lay to the south, and, including as it did the Phrygian district of Attoudda, must have bordered on the Phrygian frontier.¹

Now what did the chiliarchs do, and was their office a Persian survival or a Macedonian importation?

Prior to the Roman period² the title *χιλίαρχος* or *χιλιάρχης* had three meanings:

(1) It denoted an officer in the Persian army, so called because he commanded a thousand men (Herod. VII, 81; Xen. *Cyrop.* II, 1, 23; III, 3, 11; IV, 1, 4; VIII, 1, 14). At the beginning of the fourth century B.C. the military forces throughout the Persian empire seem to have been organized in garrisons occupying fortresses,³ under phrourarchs and chiliarchs (Xen. *Cyrop.* VIII, 6, 1 and 9) controlled by the satraps (Xen. *Oec.* 4, 11). The chiliarch ranked below the satrap and above the phrourarch (Xen. *Oec.* 4, 7; *τῶν φρουράρχων καὶ τῶν χιλιάρχων καὶ τῶν σατραπῶν* is a climax). It seems possible that the phrourarch of an important fortress such as Sardes, e.g. the Mithrines who surrendered that citadel to Alexander in 333 B.C. (Arr. *Anab.* I, 17, 3), might have held also the rank of chiliarch. In Persian times, then, the chiliarch of Sardes, who was himself its phrourarch, or else had a phrourarch as his second in command, probably controlled the phrourarchs of several neighboring fortresses, while other chiliarchs commanded other groups of phrourarchs with their garrisons. Thus the satrapy of Lydia was probably subdivided into several districts — not more than five or six in all, if we may judge from the size of our three — each known as a chiliarchy because containing a group of fortresses under the command of a chiliarch.

¹ Beloch, *Gr. Gesch.* III, 2, 1904, pl. V, depicts Lydia in 228 B.C. as extending far enough south to include Attoudda.

² It then meant *tribunus militum*.

³ Cf. *αἱ ἐν ταῖς ἄκραις φυλακαί*, Xen. *Cyr.* VIII, 6, 9, and *φυλακὰς ἐν ταῖς ἀκροπόλεσι*, Xen. *Oec.* 4, 6.

(2) The title *χιλίαρχος* or *χιλιάρχης* was also applied by the Greeks to each of the ten commanders of the Persian royal bodyguard of ten thousand, including the commander of the leading division, — the thousand “Melophoroi” (Athen. XII, 514 b), — who was the highest official of the Persian court.¹ To this personage, known as “the chiliarch,” there are several references in literature (Pherecydes, fr. 113; Aesch. *Pers.* 304; C. Nepos, *Conon*, 3; Ael. *V.H.* I, 21; Diod. XVII, 5; Plut. *Them.* 27 and 29; *Artox.* 5).

The office was copied by Alexander, who bestowed it on Hephaestion and Perdiccas (Arr. *Excerpta*, ed. Müller, 1846, p. 241; *Anab.* VII, 14, 10; Dexippus, fr. 1, *F.H.G.* III, p. 668; Beloch, *Gr. Gesch.* III, 1, 1904, p. 69; III, 2, 1904, p. 237; Bouché-Leclercq, *op. cit.* I, 1903, p. 9; IV, 1907, pp. 297–298). Another less exact imitation of the Persian model was furnished by the appointment of Cassander as chiliarch, first under Antigonos (Diod. XVIII, 39) and then under Polyperchon² (*ib.* XVIII, 48). The closeness of their attendance on the king or chief cannot have permitted chiliarchs of this type to hold definite territorial commands such as the chiliarchies of our inscription.

(3) In the Macedonian army an officer who commanded about a thousand men (64 files of 16 men each = 1024 men) bore the title *χιλίαρχος* or *χιλιάρχης* (Arr. *Tact.* X, 5; *Anab.* I, 22, 7; IV, 30, 5; VII, 25, 6; Polyæn. III, 9, 10), while *χιλιαρχία* denoted the detachment under his command (Arr. *Anab.* III, 29, 7; IV, 24, 10, and 30, 6; V, 23, 7). The title thence passed into the army of the Ptolemies, where its holder ranked below the *strategos*, just as the Persian chiliarch ranked below the satrap (P. Meyer, *Heerwesen der Ptol.* 1899, pp. 12, 25; Bouché-Leclercq, *Hist. des Lagides*, IV, 1907, pp. 46–48; *O. G. I.* No. 119, note 4). There is, however, no reason for supposing that this Macedonian office was copied or derived from the Persian.³ Its descriptive Greek title was doubtless adopted

¹ “Das vornehmste persische Hofamt,” B. Niese, *Gesch. d. gr. u. mak. St.* I, 1893, p. 164; F. Justi, *Zeitschft. d. d. Morgenl. Ges.* I, 1896, pp. 659–664; J. Marquart, *Philol.* LV, 1896, pp. 227–234.

² Bouché-Leclercq, *op. cit.* I, p. 34.

³ The argument of Brandis on this point (P.W. III, 2275) against A. Bauer (I. v. Müller's *Handbuch* ², 1893, IV, 1, p. 432) seems conclusive.

at the time when the Macedonian army was reorganized by Philip (O. Hoffmann, *Die Makedonen*, 1906, p. 83). Possibly these chiliarchs may have commanded definite districts, but we have no proof that they ever did so. We are thus led to identify the chiliarchies of our inscription with those of the Persian military organization above described (No. 1). Meaning No. 2 is, as we have seen, out of the question, and meaning No. 3 is improbable. Not only have we no evidence of territorial commands having been held by Macedonian chiliarchs, but the autonomy granted to Lydia in 333 B.C. (Arr. I, 17, 4) implies that no new Macedonian institutions were introduced there at the conquest. Furthermore, we should scarcely expect the smaller subdivisions, the chiliarchies, to have disappeared from Asia Minor before 303 B.C., or even before 281 B.C., the latest date possible for our inscription, when the larger districts, the satrapies, though governed by *strategoi*, continued till about 200 B.C. (Polyb. V, 40, 7; XXI, 13, 4; Beloch, *op. cit.* III, 2, p. 298). The functions of our chiliarchs, Pytheus, etc., will now be clear. They were soldiers, and their chiliarchies were districts organized by the Persians primarily for military purposes. Pytheus was probably commander of the Sardes garrison, and hence a personage of some importance. It will be noticed that our document makes the rentals payable not to the chiliarchs, but to the districts under their command; from which it is evident that the chiliarchs did not themselves receive these payments. When Alexander, soon after the conquest in 331 B.C., reformed the fiscal administration by placing the western satrapies under Philoxenus,¹ we cannot suppose him to have entrusted any part of this financial work to soldiers. It is probable, therefore, that he, and after him Antigonos, maintained in each chiliarchy a civilian collector of *φόροι* and other dues, responsible to the treasurer stationed at Sardes who after 331 was responsible to the chief treasurer for all the western satrapies.² The rentals here mentioned were thus,

¹ A. Köhler, *Klio*, V, 1905, p. 314; T. Lenschau, Bursian's *Jahresbericht* CXXXV, 1908, p. 152; Beloch, *op. cit.* III, 1, 1904, p. 14.

² Nicias appointed at Sardes in 333 (Arr. I, 17, 7) may have been treasurer for Lydia only, or for that and the adjacent satrapies. Cf. Beloch, *op. cit.* III, 1, 1904, p. 14; A. Krause, *Hermes*, XXV, 1890, p. 73.

we may suppose, payable in each chiliarchy to such a collector, over whom the chiliarch's authority was probably one of supervision, not of direct official control.

It is tempting to see in these subdivisions of the satrapy the forerunners of those hyparchies in which the Seleucid satrapy was divided (Beloch, *op. cit.* III, 1, p. 400; Haussoullier, *op. cit.* pp. 92-94). Under the Seleucids, while the satrapies were preserved, their governors were called *strategoî*. May it not be that, while the chiliarchies were also preserved, their sub-governors were renamed *hyparchoi*, a change which would naturally have resulted in the chiliarchies becoming known as hyparchies? The administrative innovations of the Seleucids may, in short, have affected the duties of the governors and sub-governors, without changing the limits of their districts. According to Haussoullier (*op. cit.* p. 95) the Seleucid satrapy was divided into four or five hyparchies; the number of chiliarchies in Lydia must, as above remarked, have been about the same. Again, each hyparchy had a financial official *ὁ ἐπὶ τῶν προσόδων* (Haussoullier, pp. 94 f.; Beloch, III, 1, p. 394, n. 5), who must have corresponded to the "collector" of one of our chiliarchies. Some sort of connection between the chiliarchies and their successors the hyparchies seems therefore by no means unlikely. Perhaps here also is to be sought the origin of the Egyptian system in which the *strategos*, who is so often mentioned in papyri, is a civil officer (cf. Herwerden, *Lexicon*, s.v. *στρατηγός*). The chiliarch may then also have been a civil officer.

IX. MISCELLANEOUS COMMENTS

COLUMN I.

Some further details here follow, dealing with points not treated under previous headings:

L. 1. Between the *ν* of *Χαιρέον*, of which the base only remains, and the following *ε*, there are only two sigla representing perhaps a *π*. Then a space of about five letters; then *ω*; then a space of about eight letters; and lastly the sigla of what might be *εσε*, probably the last letters of this line. Only the bases of these letters are preserved.

ἐπερωτήσαντος. — *ἐπερωτᾶν* means to make a formal inquiry, and occurs often in literature and very frequently in

papyri, of stipulations; cf. *Oxyr. Pap.* I, Nos. 84, 102, 103, 133-139; IV, 718; VI, 905, 909, 912, 913, 914, 964; VIII, 1126, 1129, 1130, 1133, 1134; *Hibeh Pap.* I, 12; *Tebt. Pap.* I, No. 61, l. 291; II, 378; *Fayum Pap.* 90, etc. Cf. the noun ἐπερώτημα in Thuc. III, 53, 2; 68, 1.

L. 2. ὕστερον ἐπέκρινέ μοι τὸν οἶκον Ἀντίγονος. — On the meanings of ἐπικρίνω and ἐπικρίσις, cf. *Wiener Sitzb.* CXLII, 1900, 9 Abh., and *Oxyr. Pap.* II, pp. 217 f., 280; where the sense is entirely different from that in our inscription; cf. also *Syll.* No. 177, ll. 29, 52, 53. With this inscription, cf. *O. G. I.* No. 262, ll. 5 f.: ἐκρίθη συνχωρηθῆναι αὐτῷ εἰς ἅπαντα τὸν χρόνον, ὅθεν καὶ ἡ δύναμις τοῦ | θεοῦ κατάρχεται, κώμην τὴν Βαιτοκαί[κη]νὴν, ἣν πρότερον ἔσχευ Δημήτριος | Δημητρίου τοῦ Μνασ(έ)ου ἐντουρίωνα τῆς περὶ Ἀπάμ(ε)ϊαν σατραπείας σὺν τοῖς | συνκύρουσι καὶ καθήκουσι πᾶσι κατὰ τοὺς προϋπάρχοντας περιορισμοὺς καὶ σὺν τοῖς τοῦ ἐνεστῶτος ἔτους γενήμασιν. (Notice, as Rostowzew, *R. K.* p. 249, says, that the village was given first to a high official, such as Mnesimachus may have been. Notice also that the village given belongs to no city.) Cf. *Syll.* No. 929, ll. 133 f., παρά τινος τῶν κρεισσόν[ων] σχόντες. In the Aristodicides inscription (*O. G. I.* No. 221, ll. 54 f.; cf., also, No. 229, l. 100), the verb ἐπιχωρεῖν is used of this action by the king (cf. Haus-soullier, *Études sur l'histoire de Milet et du Didymeion*, pp. 102 f.), whereas in *O. G. I.* No. 221, l. 56; 335, l. 143, we have συγχωρεῖν as above. In the Laodice inscription (*O. G. I.* No. 225, l. 20), and in the Aristodicides inscription (*O. G. I.* No. 221, l. 22), παραδεικνύναι is used. Perhaps those to whom lands are merely granted, not given outright (cf. δοῦναι in *O. G. I.* No. 221, 28, and above), have only *usum fructum*, as Dittenberger, *O. G. I.* No. 221, n. 14, says. ἐπέκρινε means that Antigonus actually acted as arbiter, when perhaps some dispute had arisen about the lands, causing Chaireas to make his inquiry. The meaning is well illustrated by *Ins. Jur. Grec.* I, p. 31, l. 6, τὰς ἐπικρίσεις τὰς τῶν διαιτητῶν; and by *O. G. I.* No. 2, l. 29, ἐν τα[ῖς] διαλυσίεσσι ταῖς ὁ βασιλεὺς ἐπέκριννε, i.e., as Hicks and Hill (*Hist. Ins.* 1901, p. 312) say, decisions which Alexander had given in special cases of difficulty on which he had been consulted (cf. ἐπερωτήσαντος Χαιρέου in our inscription; cf., also, *O. G. I.* No. 502). On ὕστερον, cf. above.

L. 2. οἶκον. — οἶκος here means estate, as often in the Greek orators. In Attic law it is the whole property as distinguished from οἰκία, the dwelling-house (cf. Her. III, 53; VII, 224; Andoc. 31, 2). The meaning is well illustrated by Xen. *Oec.* I, 5: Οἶκος δὲ δὴ τί δοκεῖ ἡμῖν εἶναι; ἄρα ὅπερ οἰκία, ἣ καὶ ὅσα τις ἔξω τῆς οἰκίας ἐκέκτητο, πάντα τοῦ οἴκου ταῦτά ἐστιν. The origin of the great Roman estates is probably to be found in such Hellenistic estates as that of Mnesimachus and the Hellenistic kings (cf. Ramsay, *C.B.* I, pp. 11, 283 f., 285). The more usual word in papyri is οὐσία (cf. *Tebt. Pap.* No. 6, l. 23: Rostowzew, *R.K.* pp. 120 f.); οἶκος in the papyri generally means an apartment house or one's family.

ἐπειδὴ νῦν . . . ἔστι οὖν. — The syntax is loose, but it seems better to make a full stop after Ἀντίγονος; and to begin a new sentence with ἐπειδὴ. The clause ἐγὼ το αὐτοῖς would then be parenthetical, and ἔστι οὖν, etc., would form a loose apodosis. The sense is: "Since the temple-wardens demand the money and I haven't it, I will mortgage to them this estate, which consists of certain villages," etc. οὖν is the main obstacle in the way of placing a period after αὐτοῖς and a comma after Ἀντίγονος. It is possible, however, that ἐγὼ δὲ, etc., forms a loose apodosis, and that a new sentence begins with ἔστι οὖν (cf. Kühner-Gerth, *Ausführliche Grammatik*, II, 2, pp. 275 f.).

νεωποῖαι. — The same as the νεωποιοί in II, 6. Here evidently a board as at Ephesus (συνέδριον νεωποιῶν, *Jh. Oest. Arch.* I. II, 1899, Beibl. p. 44), though at Priene the singular often occurs (cf. *Ins. v. Priene*, index). At Priene νεωποῖα was a liturgy from which exemption was valued (cf. *Ins. v. Priene*, No. 174, l. 29). In Amorgus the νεωποιοί supervise all details of rental and even of the cultivation of the land (*B.C.H.* XVI, 1892, pp. 287–294). They kept and stored the records in temples (*Syll.* No. 510, n. 10), and acted as guarantors of mortgaged land which was foreclosed and sold by the temple at Halicarnassus (*B.C.H.* IV, 1880, p. 310). They could even themselves borrow money from the temples (so a νεωποίης borrows from Athena, *Ins. v. Priene*, No. 111, l. 203). For their relations at Delphi with the city, which held a large sum of temple money on deposit, cf. Hitzig, *Z. für vergl. Rechtsw.* XIX, 1906, p. 24, and Bourguet, *B.C.H.* XX, 1896, pp. 210, 223,

who points out how much less powerful were the Delphic *ναο-ποιοί* than their brethren in Asia Minor. On the Ephesian *νεω-ποιοί*, cf. *Ins. Brit. Mus.* III, 1, p. 80, note to No. 578; *Forschungen in Ephesos*, 1906, p. 280.

τὸ χρυσίον. — So in *Syll.* No. 177, ll. 74, 79, χρυσίον is used as a collective for the 1400 gold staters or χρυσοί of l. 73. In the present case the sum is 1325 χρυσοί; cf. II, 14. On παρακαταθήκη, cf. above. Traces of κ are clear, which makes the restoration παρακαταθήκης certain. On Artemis, cf. above.

L. 4. τὸ καθ' ἐν τοῦ οἴκου, etc. This restoration is due to Professor Mitteis. αἶδε is a case of haplography or of the omission of αἷ. Of omissions there are examples in I, 14, 17 and II, 10, 18. αἶ καλοῦνται and ἡ καλεῖται Τανδον in the next line, and ἡ καλεῖται Ἰλου κόμη in l. 10 remind one of such phrases as that in *Xen. Hell.* V, 1, 10 (cf., also, *Xen. Oec.* 4, 6). The participle is much more common in inscriptions; cf., for example, *B. C. H.* XII, 1888, p. 271; *R. Ét. Gr.* XIX, 1906, pp. 235 f.

προσκύρουσιν. — The form προσκυρόντων in l. 11 shows that this is not a contracted verb, and confirms Dittenberger's preference for συγκύρω instead of συγκυρέω (*O. G. I.* No. 65, note 5). συγκύρω is the more usual verb in papyri and inscriptions. For the meaning cf. *O. G. I.* Nos. 52, 55, 65, 92, 221, l. 51, τὸ χωρίον καὶ τῇ(ν) χώραν τὴν συγκύρουσαν, 262, l. 8. For references to papyri cf. *O. G. I.* No. 65, note 5. But we have προσκύρω also in *O. G. I.* No. 732, 8, τὸ ἱερὸν τοῦ Λέοντος καὶ τὰλλα τὰ προσκύροντα τῷ ἱερῷ; cf. Otto, *Priester und Tempel im Hellenistischen Aegypten*, p. 279.

L. 5. Half of M is preserved at the beginning of the line, so that κώ]μην is certain. On φόρος cf. above, and on χιλιαρχία, ll. 6, 9, cf. above.

L. 6. Lower right leg of χ is clear.

L. 6. χρυσοί. — χρυσοῦς is a gold stater, worth about \$4.70; cf. Hultsch, *Griech. u. röm. Metrologie*, pp. 236, 242 f., 246 f., 250, 300, etc. It is here the Macedonian gold stater rather than that of Croesus, or that of Persia or Babylonia. These gold staters of twelve obols, introduced by Alexander the Great, had taken the place of darics as current media of exchange (Beloch, *Gr. Gesch.* III, I, p. 314). The debt of 1325 *chrysoi* would be equivalent (*Hultsch, op. cit.* Table XVI)

to about \$6230. The total rental of $116\frac{7}{12}$ *chrysoi* payable by the lands enumerated in I, 1-10, may serve as the basis for a rough estimate of the extent and value of these leasehold lands, as compared with those of the freehold lands in I, 11-16. In the third century B.C. money lent on good security produced 10 per cent; but, if invested in land, was not expected to yield more than about 4 per cent (see *B.C.H.* V, 1881, pp. 114, 116; Mitteis, *Abh. Sächs. Ges. d. Wiss.* XX, 1903, No. 4, p. 9, n. 1). At this rate a rental of 116 gold staters represented the yield of lands worth 2900 gold staters or (at $11\frac{1}{2}$ to 1) 66,700 silver drachmas. The amount of cereals produced by the freehold lands of I, 11-16 (see below, l. 15 *σπόρου*, where the amount of seed required for sowing these lands is 11.5 hectolitres) estimated at ninefold the amount sown, the average product given by Cicero, *Verr.* III, 47, 112, for a Sicilian estate (*R. Ét. Anc.* XII, 1910, p. 376), would have been 11.5 hectolitres \times 9 = about 100 hectolitres; which, at 10 dr. per hectolitre (about equivalent to the price of 5 dr. per *medimnos*, the average based on *Ins. v. Pergamon*, I, No. 13, l. 4, and *Ins. Brit. Mus.* No. 455, III, 1, p. 98) would represent an annual income of 1000 drachmas. This would indicate that the freehold lands, not including the farmstead (*αὐλή*), were worth about 25,000 drachmas, as compared with 66,700 drachmas, the approximate value of the leasehold lands. The debt of 1,325 *chrysoi* (30,475 dr.) is thus seen to have been secured by property worth three times that amount. The market value of the leasehold *κῶμαι* and *κλήροι*, taken together, was considerably more than twice that of the freehold *παράδεις* and *οἰκόπεδα*. In making this rough comparison of values all the lands must be regarded as freehold, for it is possible that to Mnesimachus the net revenue of the small plots free from *φόρος* may have been almost as great as that of the larger tracts subject to *φόρος*. As to this we lack data, not knowing how much, in addition to their cash payments, was received by Mnesimachus from the serfs inhabiting the *κῶμαι*. No inference can be drawn as to the acreage of the *κῶμαι* and *κλήροι*, because they doubtless contained waste lands, as to the extent of which we have no particulars.

L. 6. The two *κλήροι* (I, 6, 8) doubtless had the same area,

so that the slight difference in their rentals — $3\frac{1}{3}$ *chrysoi* at Na[g]ria, 3 *chrysoi* at Kinaroa — must have been due to the fact that the Kinaroa land was valued at one-tenth less than the other. That allotments such as these were alike in area is highly probable, since *κληρος ἱππικός* apparently denoted in Asia Minor a *κληρος* of definite size (*O. G. I.* No. 229, iii, l. 102 f.), differing from that of the ordinary *κληρος* (*ib.* l. 100), while in Egypt the terms *τριακοντάρουροι*, *ὀγδοηκοντάρουροι*, and *ἐκατοντάρουροι* (Meyer, *Heerwesen der Ptol.* p. 36) show that cleruchs received land-grants of a certain fixed area varying from thirty to one hundred *arourai* according to their rank in the army. The *κληρος* must also have had in Asia Minor as in Egypt, a comparatively low rental and a low valuation, since it consisted as a rule of cheap land, that is, of untilled land, which the holder of the *κληρος* had to bring under cultivation (*ib.* pp. 7, 10, 40). As to what was the area of the *κληροι* held by Mnesimachus we hazard the following conjecture:

Capitalizing at 4 per cent (see above, p. 73), the *φόρος* of $3\frac{1}{3}$ *chrysoi* = $76\frac{2}{3}$ *drachmas*, we find that the value of the allotment at Na[g]ria would have been only 17 *drachmas* more than 1900, which was the sum paid at the sale of city lands in Magnesia-on-the-Maeander about 300 B.C. (*Ins. v. Magnesia*, No. 8: for its date see p. XXIX) for the cheapest 50 *schoinoi* plot of agricultural land. Now, for this Magnesian sale the lands are carefully parcelled out into 50-*schoinoi* plots. Plot 1, which fetches 1900 *drachmas*, contains 50 *schoinoi*: plots 2 and 3 together make up 50: plots 4 and 5 each contain 50, and are separately reckoned, although bought by the same purchaser; plot 6 contains 50 *schoinoi*; it is only in the last plot, containing the balance of the land — 83 *schoinoi* — that the limit of size is exceeded. Such a method of division can best be explained by supposing that in Western Asia Minor at our period 50 *schoinoi* were a customary or standard area, somewhat as the “quarter-section” now is in our Western States, for a plot of agricultural land designed for a single owner. While it is true that the rest of the Magnesian plots sold at prices higher than 1900 *drachmas*, yet for purposes of comparison with *κληροι* we need, as above pointed out, just such cheap land as the Magnesian plot 1. The approximate coincidence in value between this

plot and our Na[g]ria allotment, added to the fact of a 50-*schoi-noi* standard having apparently been in fashion at this period, suggests that this standard may have applied also to *κλῆροι*. It seems then not improbable that the Na[g]ria *κλῆρος* contained 50 *schoinoi* = 5.55 hectares = about 13.70 acres (2.47 acres per hectare, cf. Hultsch, *op. cit.* pp. 668 f.); and that the Kinaroa *κλῆρος* had the same area, but consisted of land worth less than that at Na[g]ria — i.e., about 34 drachmas, instead of 38, per *schoinos*. So the *κλῆρος* land, when it is given away in rough condition and its *φόρος* is fixed, would be worth about $\frac{1}{13}$ of the value of the garden-land in high cultivation (cf. above). Her. II, 168 says that in Egypt 12 *arourai* (= 3.31 hectares) were given to each soldier, but officers received 30 or more *arourai*, as we have seen. So our *κλῆροι* of $5\frac{1}{2}$ hectares, though smaller in area, would have been of about the same value, if the Asia Minor land was richer or less expensive to clear than the Egyptian.

L. 8. *καὶ Μορστου Ὑδατι*. — At the beginning of the line are traces of the lower parts of ΛΑ or ΑΛ, followed by a space of five letters before *-αρίου*. Possibly *ἐν* is here omitted by mistake (cf. l. 7, *ἐν Μορστου Ὑδατι*), or it is a variant form, a sort of locative, cf. the omission of *ἐν* with *τόπῳ* in *O. G. I.* Nos. 488, l. 6; *Syll.* No. 740, ll. 8, 20. On the phrase, cf. above.

L. 9. The downstroke of the third letter is visible and the space is too wide for P or K. So *Ναγριοα* is probable; cf. p. 46.

Ll. 10–13. Cf. above. L. 11, the position of *πανοικίων* is due to the fact that the syntax is similar to that of *λαῶν ἀπάντων*; cf. II, 5, *οἰκέτας ἅπαντας*. On *γινομένων*, l. 13, cf. Rostowzew, *R. K.* p. 242; Ps. Arist. *Oec.* 1355 b, and references in Herwerden, *Lexicon Gr.* s.v. *γινόμενον*; and on *χωρὶς τούτων*, cf. Xen. *Oec.* IV, 6.

L. 13. *διαίρέσεως*. — On *διαίρεσις* as a contractual division, cf. Wilcken, *Gr. Ost.* I, p. 183; Wessely, *Wiener Studien*, III, p. 5; Kenyon, *Greek Pap. in Brit. Mus.* III, 880; *Tebt. Pap.* I, 72, ll. 54, 67; Vitelli e Comparetti, *Pap. greco-eg.* 20, l. 30; *Berl. Gr. Urk.* 1895, 567, 4; *Ins. Jur. Grec.* p. 31, ll. 13 f.; Rostowzew, *R. K.* pp. 162–165. Cf., also, the use of *διανομή* in *O. G. I.* No. 335, l. 137, *ἐπὶ τῆς δια]νομῆς α[ὕ]τοις ὑπὸ τῶν*

κρατούντων παρακέ[χώρητ]ο. The διαίρεσις here, however, refers probably to the division and distribution of land which may have taken place after 311 B.C., but more probably as early as the defeat of Clitus by Antigonus in 319 B.C. It is the earliest use of the word in this sense in an inscription.

L. 14. ἐξαίρημα. This word is known only from one other inscription, Paton and Hicks, *Inscriptions of Cos*, No. 36 c (= *Syll.* No. 734), where ἐξαίρημα is used of money taken from a larger sum; cf. Herwerden, *Lexicon Gr. s.v.* (the reference even in 2d ed. is wrong), Von Prott-Ziehen, *Leges Sacrae*, No. 144. But in this inscription it means a separate or reserved piece of property probably exempt from taxation; cf. τ[ὰ δὲ τεμ]ένε τὰ ἐχσειρεμένα, *Syll.* No. 19, l. 10, and Bouché-Leclercq, *op. cit.* III, p. 230; Her. II, 168, ἄρῶνται ἐξαίρετοι δώδεκα ἐκάστῳ ἀτελέες; cf. ἐξαίρετα in *Ins. von Pergamon*, No. 38; ἐξαίρετον in *Syll.* No. 933; and κατ' ἐξαίρετον in *Oxyr. Pap.* VI, No. 907, l. 10. Such lands in Egypt were assigned to soldiers, and probably Pytheus and Adrastus were important officers who were rewarded for their services. The verb ἐξαιρέω is used in *Syll.* No. 177, l. 73, where a portion of the tribute is to be reserved as a fund from which loans may be made, ἐξαιρεῖσθαι ἀπὸ τῶν προσόδων, the same words as are used in Paton and Hicks, *l.c.* Cf., also, Her. IX, 81; Xen. *Anab.* V, 3, 4; VII, 8, 23, ἐξαίρετα; *Ins. von Priene*, No. 14, l. 33; 195, ll. 18, 33; *I. G.* XII, vii, No. 231, l. 32; *Forschungen in Ephesos*, 1906, p. 17, l. 3. Professor Mitteis suggests that ἐξαίρημα is here equivalent to *praecipuum*, i.e. a portion taken from an estate prior to its division among the claimants.

ἐλαβεν. — The singular with two subjects instead of the plural also in K.P. II, No. 5.

Τβαλμούροις. — The omission of ο between T and β here and in l. 17 is probably not merely a mistake of the stonecutter, but also reflects the native pronunciation, which slurred the ο. Such errors are common (cf., to cite only two instances, γμβρός for γαμβρός in K.P. II, No. 153, and Σράνσος beside Σάρανσος in *B.C.H.* IV, 1880, p. 304).

αὐλήν. — αὐλή here may have about the same meaning as ἔπανις in Plut. *Eum.* 8, which refers to this same period (cf. above; Ramsay, *C.B.* I, pp. 419 f.; Rostowzew, *R.K.* p. 253),

τοῖς δὲ στρατιώταις ὑποσχόμενος ἐν τρισὶν ἡμέραις τὸν μισθὸν ἀποδώσειν ἐπίπρασεν αὐτοῖς τὰς κατὰ τὴν χώραν ἐπαύλεις καὶ τετραπυργίας σωμάτων καὶ βοσκημάτων γεμούσας. Ὁ δὲ πριάμενος ἡγεμὼν τάγματος ἢ ξεναγὸς ὄργανα καὶ μηχανὰς τοῦ Εὐμένους παρέχοντος ἐξεπολιόρκει. καὶ πρὸς τὸν ὀφειλόμενον μισθὸν οἱ στρατιῶται διενέμοντο τῶν ἀλίσκομένων ἕκαστον. The reference in ἐπαύλεις is to quadrangular buildings with towers at the four corners, enclosing an open space or αὐλή (τετραπυργίαι); cf. Ramsay, *E.P.* p. 373. They correspond to the later Roman *castellum*, cf. Procop. *Aed.* IV, 1, p. 266; Jos. *Ant. Jud.* XIII, 2, 1. These fortified residences belonged to the great landowners, and go back, Ramsay thinks, to the time when immigrant Phrygians from Europe settled in Phrygia and made themselves lords of the land. Our inscription shows that such buildings existed also in Lydia, and that they were granted as gifts by the rulers (cf. *Syll.* No. 929, ll. 133 f.). These *tetrapyrgiai* existed in the Cyrenaica, in Syria, in Cappadocia (cf. Ramsay, *H.G.* p. 286; *C.B.* p. 420; *Pauline and other Studies*, 1906, p. 376 f.; *Luke the Physician and other Studies in the History of Religion*, 1908, pp. 185–187, where Ramsay compares the Seljuk khans; Butler, *Publ. of an Amer. Expedition*, II, *Architecture*, 1904, pp. 121, 177, 255; Rostowzew, *R.K.* pp. 253 f.; Rostowzew, *Hellenistic-Roman Architectural Landscape* (Russian), pp. 95 f.; *Röm. Mitt.* XXVI, 1911, pp. 151–152; Prentice, *Greek and Latin Inscriptions of Syria*, No. 340). In Lydia there was a place called Τετραπυργία (cf. Buresch, *op. cit.* pp. 96 f., 197 f.; K.P. II, p. 116), the name of which perhaps came from such a fortified house (cf. Meyer, *Gesch. d. Alt.* II, 507; Rostowzew, *R.K.* p. 253, note; Wilamowitz, *Sitzb. Berl. Akad.* 1906, p. 64; Wilhelm, *Beiträge zur gr. Inschriftenkunde*, p. 185). The αὐλή in our inscription, however, was not necessarily a fortified place, but seems rather to have been an ordinary farmstead, adjoining which were the homes of the serfs and slaves and the παραδεδισοί.¹

¹ Cf. αὐλία in Aeschines, *Contra Ctes.* 119, and αὐλή in Dion. Hal. *A.R.* VI, 50, VIII, 87, 5; cf. *Syll.* No. 510, No. 1. 68, ἐπαυλίων καθηρημένων; *Inscr. Jur. Gr.* p. 31, l. 14, ἐπαύλιας; Michel, *Rec.* No. 460, l. 40, αὐλή; *ibid.* No. 854, l. 18, τὴν αὐλὴν καὶ τὸν κῆπον; Dio Chrys. VII, 224 r; *B.C.H.* XXII, 1898, p. 433, τὴν αὐλὴν τὴν ἐν Κυβέμοις; Polyb. IV, 4, 1, τὸ Χυρῶνος καλούμενον ἐπαύλιον; Diod. XII, 43, XX, 83, 4, καθεῖλε τὰς ἐπαύλεις; Wilhelm, *Jh. Oest. Arch.* I. VIII,

L. 15. *παράδεισος*, a word of Persian origin, occurs rarely in Greek literature, but its meaning there seems to be not merely a royal pleasure- or hunting-park full of all sorts of trees, but also a garden or cultivated land (cf. Meyer, *Gesch. des Altertums*, III, §§ 34, 52; Diod. XVI, 41; Xen. *Hell.* IV, 1, 15; Xen. *Oec.* IV, 13: *κῆποι τε ἔσονται οἱ παράδεισοι καλούμενοι πάντων καλῶν τε κἀγαθῶν μεστοὶ ὅσα ἡ γῆ φύειν θέλει*; IV, 20, *τὸν ἐν Σάρδεσι παράδεισον*=in Cicero, *De Sen.* XVII, *consaeptum agrum*; Xen. *Anab.* I, 2, 7, at Celaenae; I, 4, 10, *παράδεισος πᾶν μέγας καὶ καλός, ἔχων πάντα ὅσα ὦραι φύουσι*; II, 4, 14, *παραδείσου μεγάλου καὶ καλοῦ καὶ δασέος παντοίων δένδρων*). The *παράδεισοι* are probably not vineyards, as Mahaffy in Grenfell, *Revenue Laws*, pp. xxxii f., xli f., thinks; since in *O. G. I.* No. 90, l. 15, they are distinguished from the *ἀμπελῖτις γῆ* (cf., also, *Par. Pap.* II, No. 46; *Rev. Laws*, 36, 12 and 37, 10). They are distinguished from *κλήρος*, *κήπος*, and *ἀμπελών* in *Petrie Pap.*, III, 1905, No. 26, ll. 6-7 (cf. Mahaffy, *Cunningham Memoirs*, XI, and also *Petrie Pap.*, II, p. 68, No. 22; *Tebt. Pap.* I, No. 5, ll. 99 f.). They certainly contained fruit trees of various kinds (cf. Xen. *Oec.* II, 4, 14, and note to *Tebt. Pap.* I, 1902, No. 5, l. 53), so that Grenfell is probably right in opposing Mahaffy's view that their produce was only grapes and in thinking that they contained also palms and fruit trees (cf. *Rev. Laws*, p. 95; Wilcken, *op. cit.* I, p. 157 f.). In *Petrie Pap.* II, No. XXXIX, *φοινικῶνες* seem to differ from *παράδεισοι*, but *παράδεισος* is a more general term, and Grenfell thinks it possible that even flowers and vegetables were included besides fruit trees. In our inscription the use of *σπόρου ἄρταβῶν* after *παράδεισος* would indicate that in Asia Minor, where there could scarcely have been palm trees, *παράδεισος* meant land not only with fruit trees or orchards, but with gardens of flowers and vegetables, and perhaps also grain (*ὅσα ἡ γῆ φύειν θέλει*, in Xen. *Oec.* IV, 13; Diod. XIX, 21, *παραδείσων φυτείας ποικίλας*). It would seem to have had at least in part *γῆ σπόριμος* (cf. *R. Ét. Anc.* V, 1903, p. 179). For other examples of *παράδεισος* in Egyptian papyri, cf. *Hibeh Pap.* I, No. 112, l. 93; *Berl. Gr. Ur.* No. 929, b. 2-4; *Tebt. Pap.* 1905, p. 280, l. 4, p. 282; cf. *R. Ét. Gr.* XIX, 1906, p. 235, l. 9, p. 237, l. 26. For the various uses of *αὐλή* and *ἐπαυλις* cf. Meyer, *Hamb. Pap.* 1911, No. 23, 18, note on p. 98.

II, No. 343, l. 69, and note, No. 503; *Fayum Pap.* Nos. 55, 218, 226, 341; Wilcken, *Gr. Ostr.* p. 157, etc.; Rostowzew, *op. cit.* pp. 3, 7 f., 14, 16–18, 113. Our inscription, which gives the first occurrence of *παράδεισος* in a Hellenistic inscription of Asia Minor, whence it was probably introduced into Egypt, shows that the word had an agrarian meaning distinct from that of a mere park. The inscription published by Sterrett, *op. cit.* III, No. 280, where *παράδεισος* is read is of late Roman date.

σπόρου.—The practice of estimating the area of land by the number of measures of seed required for sowing it is found in *Syll.* No. 155, ll. 15 f. (about 325 B.C.), *ὁ δὲ περίβολός ἐστιν τῆς γῆς σπόρου κύπρων ἑκατὸν ἐβδομήκοντα*; and also in an inscription from Aphrodisias (T. Reinach, *R. Ét. Gr.* XIX, 1906, p. 237, l. 13, first century A.D., *κλήροις τρισὶν σπόρου κύπρων διακοσίων τεσσαράκοντα*; also in ll. 20, 21, 26). In our case the standard is not the *kypros*, but the Persian, not the Egyptian, *artabe* = about 55.80 liters (cf. Her. I, 192; Hultsch, *Metrol.*² pp. 478, 481). Now the average amount of seed sown per hectare in antiquity was 200 litres (T. Reinach, *l.c.* p. 239), a figure confirmed by the consensus of classical writers (Jardé, *R. Ét. Anc.* XII, 1910, p. 373, n. 10).¹ At this rate the area of the two *paradeisoi* at Tobalmoura requiring 15 artabas (837 litres) of seed would be 4.185 hectares = about 10.34 acres, while that of the *oikopeda* and *paradeisoi* at Periasasostra, requiring 6 artabas (334.80 litres) of seed, would be 1.674 hectares = about 4.15 acres. The total area of these small plots in both villages would thus be 14½ acres.

L. 16. *σπόρου ἀρτα(β)ῶν*.—The stone here reads *ἀρτακῶν*, a stonecutter's mistake.

On *κατοικοῦντες*, also l. 18, cf. Cardinali, *Rend. Acc. Lincei*, XVII, 1908, p. 192 f.; *Ins. v. Priene*, Index, IV, 2, p. 244; Rostowzew, *R.K.* pp. 243, 261–263, 285, 286, 289, etc.; Ramsay, *C.B.* p. 583. The names in ll. 16–18 confirm the idea that the *κατοικοῦντες* or *κάτοικοι* or *πάροικοι*, which are so often mentioned in inscriptions, are natives (cf. above, Proper Names).

¹ The Egyptian peasants, however, perhaps because of the greater fertility of Egyptian soil, received seed at the much lower rate of one Egyptian *artabe* (36.5 litres; Hultsch, *op. cit.* p. 367) per *aroura* (0.275 hectare; *ibid.* p. 356), cf. *Lille Pap.* I, 1907, No. 5, p. 48.

κατοικοῦντες is here used, not of serfs, but of those who dwell in villages (Tobalmoura and Periasasostra), and κατοικία, though much less frequent than κώμη, is often its equivalent (cf. *B.C.H.* IX, 1885, p. 395; Buresch, *op. cit.* pp. 2f.; Marquardt, *R. Alt.* IV, p. 17; *J.H.S.* XI, 1890, p. 117). κατοικέω and κάτοικοι are often used of soldiers also; for the various meanings cf. references in *O.G.I.* No. 229, note 13; and P. Ghione, *I Comuni del regno di Pergamo* (*Mem. d. R. Accad. di Torino*, 1904), p. 98.

COLUMN II

L. 1. The traces of letters here are ΙΕΕΜΟΙΜΗΙΙ (= ΤΕΕ-ΜΟΙΜΗΤΕ), then space for twenty letters, then Λ... These sigla are above ἐὰν to κωμῶν in l. 2, and suggest the restoration μὴ ἐξέστω(?) μὴ]τε ἐμοὶ μήτε [τοῖς ἐμοῖς ἐκγόνοις μήτε (then about ten letters). There is also the trace of the bottom of Ε over π in ἀπολύσασθαι.

L. 2. ἄλφ for ἄλλφ needs no comment, since the use of a single consonant for a double in inscriptions is frequent.

ἐμποιεῖσθαι here has the same meaning as ἀντιποιεῖσθαι in ll. 3 and 6; cf. Grenfell, *An Alexandrian Erotic Fragment*, 1896, p. 99, ll. 35 f., where ἐκστήσω takes the place of our ἐξαλλάξ-(ο)μεν; cf. Theophr. fr. XCVII, 1 (Wimmer), ἀντιποιῆται τοῦ κτήματος ἢ τῆς οἰκίας, cf. references in Herwerden, *Lex. Gr.* s.v. ἐμποιεῖσθαι τινος.

Ll. 3, 4. βεβαιώσομεν. — On βεβαίωσις cf. above.

L. 4. ἐξαλλάξωμεν is a mistake for ἐξαλλάξομεν. For the use of ω instead of ο, cf. Prentice, *Greek and Latin Inscriptions of Syria*, 1908, p. 350; Judeich, *op. cit.* p. 201, index, ω for ο. The mistake of ο for ω occurs in *K.P.* I, p. 80, σοφροσύνην; II, p. 75, ἀνάγνωθι; cf. Mayser, *Gram. der gr. Pap.* pp. 97, 98. For ἐξαλλάττω in the rare sense of "oust," cf. *Syll.* No. 510, l. 38; *Petrie Pap.*, III, No. 19, l. 34.

L. 5. ἐπ[ι] τὰς κώμας, etc. — ἐπὶ here has the meaning "with regard to," like περὶ, and is akin to ἐπὶ in such phrases as ἐπὶ τῇδε τὴν κόρην = "as regards this girl." The ἐπὶ goes rather with συγγραφὴν and παραβαίνωμεν than with γεγραμμένην.

L. 5. ἐκδικαιοῦσθωσαν. — ἐκδικαιώ is a new word, but its sense is clear. ἐκδικαιοῦσθαι must be equivalent to ἐκδικάζ-

εσθαι, though δικαιούσθαι seems never to occur in the sense of "engaging in a law suit," but ἐκδικαιοῦσθαι must mean "to carry through a law suit to its conclusion." For ἐκδικάζεσθαι, the usual term, cf. *Ins. Jur. gr.* I, p. 196, l. 49; p. 204, l. 129; *Syll.* No. 177, l. 39. Another form, ἐκδικεῖσθαι, is found in *O. G. I.* No. 609, l. 14.

L. 7. εἰς τὸ Ἀρτέμιδος is simply a variation of εἰς τὰ Ἀρτέμιδος, II, 5, 9, 17.

L. 8. On the sum 2650 χρυσοῖ cf. above. On γενήματα and καρποί, also in l. 16, cf. p. 56, above.

L. 9. ὅποσονοῦν χρυσίου ἄξια ἢ καὶ ταῦτα ἀποδώσομεν. — Iota adscript is omitted in this ἦ. Notice the variation in this phrase. In l. 11, ὅσου χρυσίου ἄξια ἢ τὴν ἀξίαν ἀποδώσομεν, where τὴν ἀξίαν takes the place of ταῦτα; l. 16, ὅσου ἂν ἄξια ἢ τὴν ἀξίαν ἀποδώσομεν, where χρυσίου is omitted and ἂν used; l. 17, ὁπόσου ἂν χρυσίου ἄξια ἢ καὶ ταῦτα ἀποδώσομεν. Notice the many repetitions in this inscription. So the whole of l. 9 is repeated in l. 17; cf., also, II, 12, 19. For such indemnity in Roman times, cf. Ricca-Barberis, 'Sulle spese per i frutti pendenti al principio ed alla fine dell' usufrutto,' *Gierke Festschrift*, 1910, pp. 151 f.

L. 10. οἰκοδομη(μά)των καὶ φυτευμάτων, same phrase in l. 15. The syllable μα is omitted. φυτεύματα refers to fields and lands brought under cultivation; cf. φυτεύειν and καταφυτεύειν and Rostowzew, *R. K.* pp. 7, 15. ἄλλο τι ὅτι ἂν ποιήσωσιν refers to improvements, which the temple-wardens may make on the property.

L. 11. On παρακαταθήκη, also I, 3; II, 13, 18, cf. above. μέχρι δὲ ὅσου repeated in l. 18.

L. 12. ὑποκειμένων, cf. p. 64, above.

L. 13. ὁ βασιλεὺς, etc., cf. pp. 23 f., above.

L. 13. On τὸ ἀρχαῖον, cf. p. 60, above, and *I. G.* XII, vii, No. 515, ll. 19, 23. εἰὰν repeated without significance.

L. 14. παραχρῆμα, very frequent in papyri.

L. 18. ἐν ἐμοί, peculiar use of preposition ἐν, equivalent to "in my name." Since ἐν also occurs with τοῖς ἐμοῖς ἐκγόνοις, it is hardly a case of dittography from ἐν παρα(κα)ταθήκη, where -κα- is omitted. In l. 11, however, we have no ἐν with ἡμῖν in ἔστω ἡμῖν ἐν παρακαταθήκη.

L. 19. ἕως ἂν ἅπαν ἀποδῶμεν. — In l. 12 τέως ἂν ἅπαν ἀποδῶμεν, where τέως is used after a word ending in a vowel. But after πρᾶξις we have τέως.

ἡ πρᾶξις τέως ἂν ἐξ ἡμῶν μὴπω γένηται ἐξεῖναι. — From what has been said above, it will be clear that the inscription ended here, and that there was not another column. Column II extends two lines further down than Column I, as if the stonecutter did not want the last two lines to go into another column. The syntax, however, is very loose, and several constructions are possible. ἡ πρᾶξις might go with ἐξ ἡμῶν, as in *Oxyr. Pap.* CI, 44, 45; CIII, 21; and ἐξεῖναι be a sort of complementary infinitive to γένηται, “and the right of execution upon us meanwhile shall not be allowed”; but it seems much better to understand ἅπαν with γένηται, to take τέως as equivalent to ἕως, and to consider ἐξεῖναι a loose construction for ἐξεσται or ἐξέστω, “let execution be permitted so long as all is not paid by us.” Possibly ἔστω might be understood with πρᾶξις, and we might translate “and let there be the right of execution so long as permission (ἐξεῖναι) is not granted by us.” This, however, would make very poor legal sense. Probably the stonecutter meant to write ἔστω with πρᾶξις, but, having omitted it, filled out the inscription with ἐξεῖναι. For πρᾶξις in the case of mortgages, cf. *I. G.* XII. vii, No. 515, l. 22; and for the phrase ἡ πρᾶξις ἔστω, cf. Wilcken und Mitteis, *Grundzüge und Chrestomathie*, II, 1, p. 119.

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THE "ROMAN BOWL FROM BAGDAD"

IN the last volume of this JOURNAL, pp. 310 ff., Professor O. S. Tonks published, under the title "A Roman Bowl from Bagdad," a marble bowl with sculptured reliefs and inscriptions rudely incised. A glance at these inscriptions was sufficient to show that they were based, as Professor Tonks had seen in part, on an Arabic original. As my historical studies have made me for some time interested in the question of the transliteration from Oriental to Western languages and *vice versa*, I took up their study with eagerness. An almost complete decipherment was the result, but with this went the discovery that the inscriptions were forgeries. The brief note pointing this out, which was sent to this JOURNAL, arrived too late for the last number. Professor Fowler suggested that I utilize this delay for correspondence with Professor Tonks, and I have also availed myself of the discussion by friends more competent than myself. By thus going over the main points of controversy in private, we hope to obviate the necessity of reply and counter reply in print.

Our main concern in this paper will be these inscriptions. They were in large part deciphered by Professor Tonks, and his views in regard to them at that time will be seen from the following extracts: "The first word, Sbigmos, is more or less unintelligible. It has, however, a magical sound, and this, with other features in the inscription, led Professor Prentice and myself to look for concealed meanings in the inscription. Indeed, one is ready to look for magical formulae in almost any blind combination of letters after reading such as the following. . . . Then comes a combination of letters which if anything seemed magical to Professor Prentice and myself. The alpha and omega instantly recalled the regulation abbreviation for the Divinity, while the kappa sigma easily expanded

into Kurios. The next letter, which looks like a cross-barred theta, of course has no right to be here if it is that letter. But this form occurs in Christian inscriptions apparently as a punctuation mark, as well as the symbol for God. Alpha might stand for Adam, who appears in the magical papyri in the cosmogenic sense to concentrate the natural forces invoked, or for Abraham, whose name also is used in invocations. So out of $\Lambda\Omega\K\Xi\Theta\Lambda$ we could get the formula Alpha omega, Kurios, Theos, Adam or Abraham. To us that might not mean much; but for a late Greek or Roman who believed in the potency of mystic names this formula would be a very powerful one" (pp. 315 f.). "The presence of Asclepius and Hygieia hints at an association with medicine." "There seems to be a suggestion of magic in the formulae written on the bowl, and inasmuch as this is intimately connected with the practice of medicine, we have, so it would appear, some reason for thinking that the bowl was used for medicinal purposes" (p. 320). From this it appears that Professor Tonks was inclined, in spite of doubts, to the view that the bowl and its inscriptions had magical suggestions. In this connection it is proper to add the following from Professor Prentice: "I never believed that 'these inscriptions were of a magical nature.' . . . The search for magical formulae in such combinations of letters was natural enough to me; but here it was unsuccessful, and the idea was abandoned. I made other suggestions to Tonks about the inscriptions, but the 'partial decipherment' . . . was Tonks' own."

Such, then, is the view hitherto held. It will be most convenient if it is here stated that the present writer would read the main inscription as representing approximately the following Arabic, *سبينيوس سويرس سابينة اوكسطة*, which in turn would be transliterated SBYTMWS SWYRS SABYNA AWKṢṬA, and which would mean Septimius Severus, Sabina Augusta.

Now let us take up the decipherment letter by letter. We have given the Greek on the bowl, the Arabic from which it was transliterated, and the European language, Greek, Latin, French, or what not, from which this Arabic was derived and which goes back ultimately to the Latin, not the Greek, forms. There could be no question as to the proper representation of

the *s*-sound in all three. But the following *e* is not found in the Greek. Evidently it was not in the Arabic, and this indicates that there was no vocalization here. The use of a *b* for the *p* of Septimius simply shows that it has gone through the Arabic, which has no proper *p* and so must use a *b* in the transliteration of proper names. The *i* might be taken as a vowel, inserted to make more easy the pronunciation of two consonants coming together, a not uncommon phenomenon in Syrian Arabic, but it would seem to be better to accept the theory of Dr. J. P. Peters, Professor Torrey, and Dr. B. B. Charles, that we have here the ambiguous group *ya ta*, which, if written in manuscript, as in the reproduction of Dr. Charles, might as easily be read YT, as did our forger, as TY, as it should have been. Incidentally, it proves that the Greek was transliterated from a written and not an oral Arabic. The *gamma* is simply an error of the engraver of the bowl, for what is needed here is a *tau*. The question has been raised by Professor Brünnow as to why we have here the use of a *ta* and not a *ta* indicated in the Arabic text. This may be phonetic, due to the following *i*, or it may be, as suggested by Dr. Charles, that it is folk-etymology, due to an assumed connection with the Arabic *sebt*, Sabbath, a not unlikely theory when we remember that our forger was in all probability a Christian. But such assumptions are by no means necessary, for there are plenty of examples in modern Arabic of the variant use of *ta* and *ta* in the same word, and, indeed, Professor Torrey tells me that this was true in the Arabic spelling of his own name. The *omega* indicates a *waw* in the Arabic. This could hardly stand for an *omicron*, which is not likely to have been represented in an unvocalized text. The more natural supposition is that this *waw* represents a Latin *u*, which would then point to the Latin, not Greek, form of the word. Professor Torrey has drawn attention to another possibility, that the *waw sin* is a natural contraction for *ius*.

Professor Tonks has successfully made out the second word as Severus, and the third as Sabina. Professor Torrey believes that the *alif*, which must be assumed as the original of the second letter in Severus, is what we should naturally expect as a result of the genius of the language. He accordingly thinks

that my first explanation of this as a hint of vocalization, due to the misreading of a *fatha* as short *a* instead of short *e*, is improbable. The argument from the general character of the language is in his favor, and we have no other certain trace of vocalization. But it should be noted that the form he postulates is not found among the variant spellings of the name of Severus, which Dr. Charles has found for me in Mas'udi. As I know from my own experience, it is not difficult to pick up a lithographed copy of Mas'udi in Syria, and the man who was responsible for the Arabic forms could easily have learned the literary forms, for he certainly was well educated. The *omega* represents another *waw*, which in its turn can hardly stand for *omicron upsilon*, as our forger seems to have mechanically transliterated each single letter of his Arabic original by a single letter in the Greek. Then the only other possibility seems to be a *u*, and this again points to an original which used the Latin, not Greek, form. On the other hand, the use of *ya* to represent the second *e* in Severus, which is long, would with difficulty be assumed as known to a modern Arabic-speaking person. In the Greek form, the *eta* would, of course, permit this, but there is no other indication that there was a Greek basis for these names. The most probable theory is to take the use of the literary forms of Severus already in Arabic, for some of these actually do have the *ya*.

We have no more points of interest until we note the *alpha omega* for *alif waw* as the natural representative of *Au*. The man who transliterated the *g* of Augusta by *kaf* evidently lived where the *gim* was not pronounced as hard *g*, or he would have used that letter. If, however, he had followed the normal literary fashion, he would have used *gh*, which we find in Aughustus. But such transliteration of the foreign *g* by *kaf* is common in Syria, while the Persian has actually taken this *kaf*, given it a special mark, and made it thus a *g*. The cross-barred *theta* is one of the best proofs of the forged character of the inscriptions, for this archaic form could not possibly have been used within centuries of even the date pointed out by the imperial names. We might argue that this use of the *theta* represents a *ta*, and that this was used because it so frequently occurs in Aughustus. But we have already seen that

our form does not agree with the literary form in regard to the *g*, and so perhaps we had better not attempt to find the reason for this *theta* in literary reminiscences. Here best fits Professor Torrey's seductive theory, that the man who engraved the bowl mechanically picked out his Greek letters by means of one of those tables of alphabets, so common in Syria, where, opposite the Arabic forms, are to be found the main types from cuneiform down.

The remaining inscriptions consist mostly of names, and have been in general sufficiently worked out by Professor Tonks. Certain additional points, however, may be mentioned. The Askolab undoubtedly goes back to the Latin form Asculapius rather than to the Greek Asklepios, especially as the *omega* here must again represent a *u* through a *waw*. But it is quite possible, as Professor Torrey suggests, that it is not really the actual Latin form that we are to assume as the basis, but the modified French form Esculape, the pronunciation of which would, of course, exactly coincide with the Askolab. French is so well known in Syria, and especially in the Lebanon district, that it requires no violent assumption to believe this. And we could then find in the Eigi over the figure of Hygieia another proof of French influence. Certainly the *gim* must here go back to something other than hard *g*, for that we have already seen was represented by *kaf*. But in the Lebanon *gim* would regularly have the *zh* sound, and so we would have the exact reproduction of the pronunciation of the French Hygie. When Professor Torrey suggests that the use of *E* for the Arabic *ha* is due to this being the representative of that letter in the table of alphabets, he may well be right, but we should also consider the possibility that this loss of *h* may be due to the loss of the aspirate in the modern Greek. He reads the character after BNΔΩPA as *l*, and explains it as an ending for that name in *alif ya*. Finally, he has been able to make out the Aoginon, which had eluded Professor Tonks and myself, as Eugenius, a late ruler whose coins are not uncommon in Syria. His explanation of the second N as due to a confusion of the manuscript form of final *sin* with that for *nun* seems to solve that difficulty.

Such, then, is a brief account of the decipherment as it stands

at present. However much we may differ in details, none of the scholars to whom I have shown this has any doubt of the inscriptions being forged, and, indeed, Professor Tonks has admitted this. But he still insists that "the admission of their falsity does not imply necessarily that the bowl is a forgery," and that he "is still forced to believe that, although the bowl presents certainly an unusual appearance, and has quite as certainly been tampered with, its authenticity must be granted, grudgingly perhaps, until some further evidence turns up to render its falsity indisputable." But the mere fact that there is something admittedly false about the bowl leaves it open to suspicion, and the burden of proof is thrown upon the scholar who would still defend its authenticity. The bowl *may* be genuine; one would hesitate to decide without a more careful examination, and that of the original, than is possible for most of us. But it must and will remain suspect until strong proof to the contrary be given. Professor Tonks himself has seen that there are other reasons to suspect the bowl. He is "tempted . . . to say that . . . the whole bowl is modern," "that there would seem much reason for relegating the work to the category of forgeries," and "the first impression of the bowl was such as to cause one to be suspicious of it." To be sure, he feels himself able to answer these objections, and yet our suspicion is, to say the least, aroused. Professor Prentice, though he does not consider that my "theory about the inscriptions affects the question of the age of the bowl itself" because "it has been evident from the beginning to all of us here that the inscriptions are of different origin from the bowl itself, even when some of us believed that both might be genuine, *i.e.* ancient," that "the inscriptions are rudely scratched while the bowl and its figures are carefully carved," though he feels that *if* the wolf children are really different from the Renaissance children, then the bowl is old, nevertheless states that he has "never been convinced of the genuineness of the bowl, and is not now." And Professor Brünnow also declares, "From the very first time I laid eyes on the bowl, I had a very strong suspicion that it was a modern forgery." When those who have actually seen the bowl have their "strong suspicions," we may be also permitted to have our doubts.

By publishing the bowl under the heading of "A Roman Bowl from Bagdad," Professor Tonks has given a certain amount of approval to the statement of the person from whom it was bought that it came from that place, though in the text he qualifies this by "was said to have come from Bagdad," and adds a note in which it is stated that Père Jaussen had been told that it came from the Hauran. The assumption that it came from Bagdad has serious difficulties, as has also the theory that the inscriptions are magical, and that the bowl was, therefore, used for medicine. If we are to accept these theories, we naturally turn, for comparison, if we are acquainted with the archaeological productions of Babylonia, to the famous Mandeian bowls which have also magical inscriptions and designs. But, though they belong to the very period and locality from which this is supposed to have come, they are totally different, and in this I am confirmed by Professor J. A. Montgomery, the one authority on these bowls in America. It is difficult to assume that these reliefs can be attributed to as early a date as the third century, and Professor Tonks feels it necessary to "come down to Coptic times to find parallels." But it is still more difficult to assume the production of such strongly pagan reliefs, even in Seleucia, so long after the accession of the bigoted Sassanidae in 226 A.D. So, for this period, Coptic parallels cannot be applied to Babylonian products. There is, of course, much less difficulty in assuming Coptic parallels to productions of central Syria and the Hauran, though even here we should have to be cautious in applying such parallels. Professor Tonks writes, "I do not believe the provenance given to be important." But it is important to this extent, that what would be a probable parallel in Egypt becomes much less probable in the Damascus region, and most improbable in Babylonia.

In the earlier draft, I had ventured a few remarks on the subject of general style. But now I can rely on the remarks of no less an authority than Studniczka, in the *Kunstchronik*, XIII (1911), 112: "Den Herausgeber selbst, obgleich er zugleich der Eigentümer zu sein scheint, hat der Verdacht moderner Entstehung sehr beschäftigt. Wie berechtigt er ist, lässt sich ohne Prüfung des Originals nachweisen. Ein

Hauptstück des Relieffrieses ist die auch von Tonks erkannte Nachbildung der altetruskischen Bronzewölfin im Konservatorenpalast, die sonst auf keinem antiken Bildwerke vorkommt. . . . Und zwar erscheint sie auf der Marmorvase mitsamt den in der Renaissance hinzugefügten Zwillingen. Die von Tonks . . . hervorgehobenen, sehr leichten Abweichungen der Kinderfiguren im Relief von denen der Bronze können daran nichts ändern. Die nach Petersens einleuchtender Beweisführung ursprünglich zu der kapitolinischen Wölfin gehörigen, verlorenen Zwillinge müssen ganz anderen, archaischen Stiles gewesen sein. Nach dieser einen Feststellung ist es kaum nötig, noch all die anderen Gründe für die Unechtheit des Marmorwerkes anzuführen, die ja zum Teil der Herausgeber selbst schon beigebracht hat."

Professor Tonks, however, still holds to the authenticity of the engraved figures, and I accordingly present his view of the present situation: "One is bound to respect the dictum of so distinguished a scholar as Studniczka. But in spite of this, I cannot help feeling that since the maker of this bowl has been so literal in the rendition of the wolf he would not have been likely suddenly to change and take liberties with the twins. That being the case, the difference from the Renaissance pair that the twins present in the matter of the position of the arms must have value. Its close resemblance to the original postulates that the copy must have been made by one who could study the wolf closely while carving the bowl. This would mean that the maker was at the time in Rome (or, what is unlikely, possessed an accurate copy of the Roman wolf). The fact that the twins differ from the modern children shows that the bowl was created before the original group was lost,—unless, and this is unlikely, the maker had a very perfect copy of the wolf with the original children in place. The bowl, therefore, must date between the date of the disappearance of the original twins and that of the busts. In view of this, I am bound to say that unless other proof of falsity is given, we must accept this group as the most important document we have for the character of the original twins. In regard to the other matters touching the authenticity of the bowl,—as to these I have given my reasons for believing them valuable, so

that it remains for those who believe the bowl a forgery to refute them. In other words, I believe that the burden of proof now rests upon these scholars and no longer upon me. The question of the inscriptions and of the bowl itself must be considered apart. That modern forgers are apt to 'improve' genuine antiques is of course well known."

I have thus, in attempting to sum up the matter, presented in their own words the contentions of both sides. But one point still remains for discussion. Studniczka adds "*Zu der dennoch wünschenswerten Quellenanalyse der Fälschung fehlt mir die Zeit.*" In my own case, it is rather a lack of knowledge and especially of proper library facilities. Yet it is important, if this is a forgery, and as in a way a proof of forgery, if we can to some degree indicate the possible sources of the forger.

As for the bowl itself, it at once strikes the man who has travelled in the Orient as being most probably an example of that commonest of all types of forgeries, the reproduction in the more expensive stone of something found in a cheaper material. It is unfortunate that we do not have a closer determination by a geologist of the stone, for this would in itself give a practically certain clue to the locality from which it came. As to the figures, the heads of the imperial couple seem to me, as well as to several others, to have been taken from coins, though it is quite possible that the direct source was some book or other printed matter. Professor Torrey also notes, what must be familiar to any one who has collected coins in Syria, that coins of Severus and Sabina are common enough there. But, though similarities may be traced between our heads and the coin figures of these rulers, there is no more reason to assume that the forger really knew that these represented Severus and Sabina than that he guessed right in the case of the "Atalanta." To me, as well as to the majority of those with whom I have discussed the question, all the figures appear to have been taken from some book. Needless to say, it would be foolish to insist on any one book or group of books, so long as we are unable to place our hands on any actual original. Nor should we forget that the man who could make, or find, such accurate transliterations into Arabic as we have

noted, need not, and probably would not, have confined himself to one book. In his library, for use in giving both the names and the figures, he may have had some of the books on ancient history which are listed in the catalogues of the American and Jesuit Presses at Beirut; he may have used the Arabic Oriental periodical, *al Machriq*; he may have had a somewhat elaborately illustrated history of Syria, which I once saw and have since been unable to get track of; or he may have used, as certain indications make possible, French works, in which case a wide field is opened to our conjecture. Without a larger collection of printed material than is here accessible to me, I cannot pretend to settle the matter. I feel certain that the originals of the figures will sometime be found in some book or books, but what these are, or are not, I shall not attempt to settle.

Somewhat more exact results may be obtained as regards the inscriptions. Whether one or two or a dozen men were engaged, whether there was a "learned friend" who gave the forger the Arabic forms, or whether the man who wrote the Arabic was the same as the man who wrote the Greek, and whether this man or these men was or were the same as the man who carved the bowl itself, cannot be proved, and these points are comparatively unimportant. We can be sure that the bowl was carved by a man who knew little Greek, who had learned this perhaps only by the use of a table of alphabets, perhaps only through the knowledge gained by the church services, if he was, as is at least possible, a "Greek" Christian. On the other hand, the Arabic from which this Greek has been transliterated is perfect. This matter is so important that I cannot do better than quote Professor Torrey, as a far greater authority than I, on this point. "It is not a painful transferring, letter by letter, such as the Arabic-into-Greek performance is; nor can it possibly be explained by supposing any such process. On the contrary, it is at every single point just the way in which a man who could read the European languages easily would ordinarily render these names. He uses everywhere the conventional equivalents, not at all the same as those which would have been used necessarily by an ignorant man. This statement is fundamentally important, and I am ready to support it in detail, if there is any need of doing

so." We must assume, then, as proved that the Arabic from which the Greek was transliterated was written, and that it ultimately goes back to a printed source. This may have been taken by the forger from the written notes of a "learned friend." It may equally well have come from the books in Arabic or in French in the library of a man who read these two languages with facility, but whose knowledge of the Greek might be confined to what he could painfully pick out from the table of alphabets which we should quite expect to be found in the library of such a Syrian amateur.

No attempt is made to underestimate the difficulties to be met by the belief that the bowl is forged, and, unless we find the actual originals, those who still insist upon the authenticity of the bowl itself may find grounds for their opinion. These difficulties increase when an attempt is made to explain how the forgery came into being, for here we have a wide range of possibilities, though limited to a certain extent. But, when all deductions are made and when the difficulties for and against are stated, the greater difficulties are found in the assumption that the bowl is genuine. It is admitted by all that the inscriptions are forgeries, and this, in spite of the statement of Professor Tonks, does throw a suspicion on the bowl, even if it were otherwise without such suspicion. When to this natural suspicion we add all the other objections, it becomes difficult to believe in its genuineness. Professors Brünnow and Prentice have seen the bowl and are still not persuaded that it is genuine. Professors Bauer, Fowler, Jastrow, Montgomery, and Torrey have all, for one reason or another, declared their belief that it is a forgery, and we have the authority of Studniczka to the same effect. But, as there are still those who believe that it is at least probable that the bowl is genuine, this somewhat wearisome discussion of its authenticity may have had its use.

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A NEW COLLEGIUM AT ROME

IN the month of July, 1911, I found in the shop of a Roman dealer in antiquities a Latin inscription (Fig. 1) which was of such interest and importance that it seemed unwise to let it lie longer unnoticed. I therefore brought it to the attention of the Director of the Museo delle Terme, Dr. Roberto Paribeni, who promptly secured it for the Museum, and most kindly suggested that I publish it at my convenience. The inscription is cut, in fine letters of the early imperial period, on a slab of marble 0.51 m. in height and 1.125 m. in width. Small fragments are missing at three corners. The text is as follows:

coNCORDIAE · AVG
SACRVM

C · CLODIVS · C · F · MAGNVS · ET · C ·
CLODIVS · CRESCENS · PATER · ARG
IMAGINES · III · ET · SIGNVM · CVM · SVIS · ORNAMENTIS · ET
BASI · PIGMENTARIS · ET · MINIARIS · SVA · PEC · D · D

The importance of the cult of Concordia in its relation to the imperial family is well known, being attested both in inscriptions and on coins. In *CIL.* II, 3349, for example, we find Augustus, Pax Perpetua, and Concordia Augusta united in the same inscription, and dedications to Concordia or to Concordia Augusta on behalf of the emperors are common.¹ It is, therefore, scarcely open to doubt that the *imagines* of the fifth line represented three members of the imperial family who were thus associated with Concordia Augusta. Strong support for

¹ For example, *CIL.* VI, 91-94; VIII, 15447; cf. De Ruggiero, *Dizionario*, II, 572, and Roscher, *Lexikon*, I, 916 f.

this view comes from the inscribed bases, discovered about twelve years ago at Ephesus, which record the munificence of C. Vibius Salutaris in presenting silver statues of Diana, together with those of Divus Augustus and King Lysimachus,

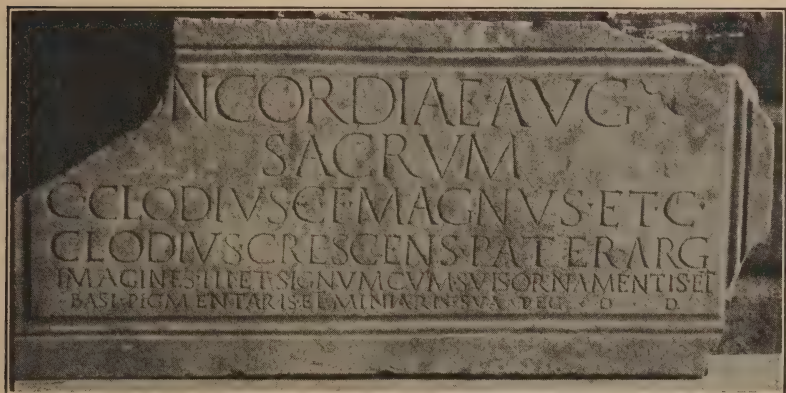


FIGURE 1.—INSCRIPTION FROM ROME.

for the decoration of the theatre. On one of these bases we read *Dianam argenteam item imagines argentea(s) duas, unam divi Aug. (a)liam phyles sua pecunia fecit*; and on another, *Dianam argenteam item imagines argenteas duas (u)nam Lysimachi¹ et aliam phyles sua pecunia fecit* (CIL. III, 14195, 5 and 6). Similarly, in the present case the *imagines* of members of the imperial family, and doubtless the statue of Concordia Augusta as well, were of silver, especially since they were the gift of men one of whom, at least, was engaged in the silver business, either as a dealer or as an artisan.

In order to receive such a gift, the *pigmentarii et miniarii*² must have had a regular organization and headquarters in Rome; in other words, they formed a professional *collegium*, which comes to light for the first time in this inscription.³ That it was customary for men to present statues of gods or of emperors for the adornment of the *schola* or *templum* of a *colle-*

¹ Lysimachus is the king whose kindness to the Ephesians is recorded by Strabo, XIV, p. 640.

² It is worth noting that *miniarius* is not found in the lexicons.

³ The *pigmentarii vici Iorarii* of VI, 9796 were not a *collegium*, as Waltzing points out in *Étude historique sur les Corporations*, IV, p. 36.

gium by which they had been honored is amply attested in the inscriptions. Of the many examples that might be cited, two or three will suffice: XIV, 33, *T. Annius Lucullus . . . honoratus signum Martis dendrophor(is) Ostiensium d. d.*; VI, 1936, *In honorem domus August(ae) Ti. Claudius Secundus . . . viatoribus (trium)vir(um) et (quattuor) vir(um) scholam cum statuis et imaginibus ornamentisque omnibus sua impensa fecit*; VI, 1872, *Ti. Claudio Esquil(ina) Severo, . . . patrono corporis piscatorum et urinator(um) . . . quod hic primus statuas duas, una(m) Antonini Aug(usti) domini n(ostri), aliam Iul(iae) Augustae dominae nostr(ae), sua pecunia posuerit.*

In what part of Rome the *collegium* of the *pigmentarii et miniarii* had its headquarters cannot be determined with certainty. The inscription was said to have been found between the Tiber and Monte Testaccio, but such stories are not always worthy of belief.

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American School
of Classical Studies
in Rome

INSCRIPTIONS FROM ROME

THE following apparently unpublished Latin inscriptions from Rome are in the collection of the American School of Classical Studies in Rome, with the exception of No. 4, which I publish from a copy.

1. The right portion of a slab of yellow marble; h. 0.100 m., w. 0.158 m., th. 0.010 m.; letters, from 0.018 m. (l. 1) to 0.008 m. (l. 5) high. October, 1905.¹

| | |
|---------------------|---|
| LERIVS·M·F·POLL | <i>M. Va]lerius M. f. Poll(ia)</i> |
| AA·MILES·CORTIS·V | (sic)] <i>a miles cortis v.</i> (sic) |
| ORIAE·OPTIO·VIX·ANN | <i>praet] oriae optio, vix(it) ann(is)</i> |
| MILITAT·ANN·XIV·HIC | (tot),] <i>militat ann(is) xiv, hic</i> |
| ITVS EST | <i>s]itus est.</i> |

L. 1, *Poll(ia)*: cf. Cagnat, *Cours d'Épigr. Lat.*, 3. éd., p. 61, n. 1.

L. 2, the *cognomen* is perhaps *Herm]a*, less likely *Palm]a* or *Gemm]a*. Cf. *C.I.L.* VI, 10229, v. 26: *Va]lerio Hermeti*, possibly the same person.

2. A slab of grayish marble; h. 0.126 m., w. 0.223 m., th. 0.030 m.; letters 0.008–0.014 m. high; there are slight traces of *minium* in the letters; in the margins, a simple incised line. Alleged provenance, the vicinity of S. Paolo fuori le Mura.

| | |
|---------------------|------------------------------|
| D·AMPVDI· | D·AMPVDI (<i>margo</i>) |
| VS·SOTERICVS· | D·F·BASSVS |
| (sic) INFRA·TITLVM· | SVPRA·TITVL (<i>margo</i>) |
| OLLAS·DVAS· | OLLAS·DVAS |

¹ I indicate thus the date of acquisition; practically all the stones were purchased from antiquity dealers.

3. A cippus-shaped slab of cream-colored marble; h. 0.270 m., greatest w. 0.143 m., th. 0.044 m. Irregular lettering. December, 1905.

Caput iuvenis

TI CLAVDI
SYMBI
VIXIT·ANNIS·
XX·SINE·VLLA
MACLA·RELIQVIT (sic)
SIBI·AMOREM
MAXIMVM

4. [I copy the following from an inventory of inscriptions at the American School which was prepared by Miss Elizabeth Bruce. I have not been able to find this inscription, which seems not to have been at the American School since March, 1905.]

"Slab of bluish-white marble, tapering downward. Broken at bottom. 0.19 m. (at top) \times 0.40 m. \times 0.08 m. Curved top and single groove."

" D M
P·CORDIVS
TELESPHOR
MARCIAE·A
POLLONIAE
CONIVGI
SVΛE·B·M
FECIT"

5. A tablet of white marble with gray streaks; h. 0.083 m., w. 0.170–0.172 m., th. 0.029 m.; letters rude, 0.013–0.017 m. high. One nail for fastening is preserved, and the hole for the other. Alleged provenance, the vicinity of S. Paolo fuori le Mura.

DAMA
LIS

6. A slab of white marble; the lower left-hand corner is lost; the part preserved is broken in two pieces; h. 0.323 m., w. 0.225 m., th. 0.032 m.; letters, 0.023 m. high. June, 1905.

D M
ERIDANVSZOSI
MI·AVG·LIB·SERB (sic)
FECIERIDANOFILIO
ORORISMEAEQVI
VIXITANNVIIMV
D XIIII
L. 5, s] *ororis*...

7. A slab of white marble with gray streaks; h. 0.094 m., w. 0.198 m., th. 0.023 m.; the two nails for fastening are preserved; on the back is a portion of a meander in relief; the inscription is at the top of the slab, in letters 0.016 m. high; it leaves a clear space of 0.050 m. to the right, containing a horizontal groove which was probably the cause of the stonecutter's leaving the inscription incomplete, or completing it with *minium* only. Autumn, 1904.

HERMIA·THUC *Hermia Thuc(ydidis)*.

8. A slab of coarse-grained white marble, broken in six pieces; h. 0.155 m., w. 0.707 m. (top) to 0.713 m. (bottom), th. 0.024 m.; in the middle of the right and left edges there are holes for nails; letters, 0.029 m. (l. 1) to 0.016 m. (l. 4) high. Alleged provenance, the vicinity of S. Paolo fuori le Mura. Autumn, 1904.

DIIS·MANIBVS
M·IVNIO·FEROCI·IVLIA·VENERIA
CONIVGI·SVO·CARISSIMO·CVMQVO·VIXIT
ANNIS·XXIIX·FECIT·ET·SIB·ET·LIBERT·LIBERTAB·POSTER·Q·EOR

9. A tablet of white marble; h. 0.096 m., w. 0.158 m., th. 0.012 m.; simple incised border; the two nails for fastening are preserved; letters, 0.015–0.017 m. high. Alleged provenance, the vicinity of S. Paolo fuori le Mura. Autumn, 1904.

C·VALERIVS
SPERATVS

10. The upper part of a slab of white marble; h. 0.365 m., w. 0.335 m., th. 0.034 m.; letters, 0.025–0.030 m. high.

♡ D ♡ M ♡
 VICTORIO ♡
 AGATAERO ♡
 LIBERTO ♡
 BENEMEREN
 TIFECIT ♡

11. The left-hand part of a slab of white marble with gray streaks; h. 0.105 m., w. 0.175 m., th. 0.019 m.; letters, 0.016 m. high. The *minium* of the letters is fairly well preserved; the nail for fastening at the left is preserved. June, 1905.

M · VIPSANIVS · AGR *M. Vipsanius Agr[ippae] l.*
 ET · ANTISTIA · FAC *et Antistia Fac[undia?]*

For the *familia* of Agrippa, cf. *CIL.* VI, 10255, and p. 3503 (inscription found outside the Porta Pinciana): *dis | manibus | collegio | Agrippiano*; De Ruggiero, *Dict. Epigr. s. v. Agrippianum (collegium)*; cf. also *CIL.* VI, 5299, 15616.

A. W. VAN BUREN.

AMERICAN SCHOOL OF
 CLASSICAL STUDIES IN ROME.

GENERAL MEETING OF THE ARCHAEOLOGICAL
INSTITUTE OF AMERICA

DECEMBER 27-29, 1911

THE Archaeological Institute of America held its thirteenth general meeting for the reading and discussion of papers at the University of Pittsburgh, Pittsburgh, Pennsylvania, Wednesday, Thursday, and Friday, December 27, 28, and 29, 1911, in conjunction with the annual meeting of the American Philological Association. Four sessions were held for the reading of papers, and at two evening meetings addresses on archaeological subjects were delivered. The abstracts which follow were, with few exceptions, furnished by the authors.

WEDNESDAY, DECEMBER 27. 11 A.M.

Joint Session of the Institute and the Philological Association.
The following archaeological papers were presented:

1. Professor William N. Bates, of the University of Pennsylvania, *Greek and Roman Sculptures in Philadelphia*.

The writer discussed seven pieces of sculpture in the Museum of the University of Pennsylvania. These were: (1) a helmeted head of Athena, a fine Hellenistic work said to have come from Cairo; (2) the upper part of an Attic grave relief of Pentelic marble with the heads of a man and a woman, of great beauty, date about 400 B.C.; (3) a draped female figure of colored marble, perhaps an Iris, a Roman copy of a late fifth century original; (4) a small head of Dionysus crowned with ivy; (5) a fine portrait head of Menander; (6) portion of a large Roman relief with two life-size figures, one of which is apparently a portrait of Augustus, the other a soldier; (7) a sarcophagus relief of imperial Roman date representing a Bacchic procession.

2. Professor William N. Bates, of the University of Pennsylvania, *Note on a Roman Ring*.

The writer described a woman's gold ring of imperial Roman date consisting of a plain band, and in place of a seal, the figure of a naked infant modelled in the round, in the act of climbing up a pole, that is, up the band of the ring. On the inside is the inscription EXCIDIO SERVATA MEO, "preserved by my destruction." The writer could find no parallel for this inscription. Taken in connection with the figure of the naked child, it would seem to indicate that the life of a mother had been saved by the death of her child, and that the ring was designed to commemorate that event. The ring is in the Museum of the University of Pennsylvania.

3. Professor Hamilton Ford Allen, of Washington and Jefferson College, *A Mummy Label in the Carnegie Museum*.

Wooden tablet, perforated at one end, 12 × 6 cm., letters incised on ink, ΤΚΟΝΑΛΑΤΕΙΝΕ Ἐπωνίχου ἐτῶν ΙΘ. Paper will be published in full in *Annals of the Carnegie Museum*, Vol. VIII.

4. Professor Frank J. Mather, Jr., of Princeton University, *The Fenway Court Giotto*. (Read by Professor H. E. Keyes.)

The writer discussed Giotto's picture of the Purification at Fenway Court, Boston, arriving at the conclusion that the attribution was tenable and the date after the Santa Croce frescoes. The little picture is probably a copy of the famous fresco in the Tosinighi Chapel, Santa Croce, which Vasari praised for its emotional appeal. The Fenway Court picture belonged to a series of which other members are recognizable in the Nativity, the Metropolitan Museum; the Entombment, Berenson Collection, Settignano; and the Last Supper, Munich. These are not, as often stated, predella pieces, but probably door-panels.

WEDNESDAY, DECEMBER 27. 2.30 P.M.

1. Professor Hamilton Ford Allen, of Washington and Jefferson College, *An Inscribed Bronze Plaque from Coptos*.

No abstract of this paper was received.

2. Mr. Charles Hill-Tout, of Abbotsford, British Columbia, *Neolithic Man in British Columbia*.

Archaeological research in the Province of British Columbia has until recently afforded no evidence of man's presence there beyond at most five thousand years. Last summer, however, a human skel-

eton was discovered in the fresh water clay silts of the Kamloops district. The bones of this skeleton were seen obtruding from the face of a channel cut in the clay by the action of a small stream. The remains are not quite perfect, but the chief parts of the body of the skeleton and the major portions of the skull were secured. The contours and the cephalic index of this latter differentiates it from the skulls of the present native races of that region, these being a markedly brachycephalous people, while the skull is markedly dolichocephalic. The clays in which the skeleton was found are estimated by a local mining engineer of considerable experience, to be not less than 20,000 years old. The district is within the "dry belt" of the province, and this fact may account for the preservation of the skeletal remains. These latter will be subjected to careful, expert examination, and any peculiarities will be recorded. The attention of the Dominion Geological Department has been directed to these clays with the view of determining as far as possible their approximate age. It is noteworthy that the skulls obtained from the older burial mounds and from the lower horizons of the ancient midden heaps of this region are all dolichocephalic, yet there is no native tribe with this type of head in the province to-day; nor any evidence of their presence in the past, save these prehistoric skulls. The presence of these latter over various parts of the province would indicate that the modern brachycephalous tribes were preceded by a dolichocephalic people who have entirely disappeared.

3. Professor C. H. Weller, of the University of Iowa, *Notes on Athenian Topography*.

Cynosarges. — Nothing definitive was found by the British excavations south of the Ilissus, and the discussion hangs still on the literary evidence. The location in the vicinity of the Zappiron is supported especially by Pausanias and Pseudo-Plato's *Axiochus* (cf. Dyer and Milchhöfer).

Asclepieum. — The precinct probably contained but one temple. So we gather from the inscriptions covering four centuries and from the scene depicted in Aristophanes's *Plutus*. Köhler's interpretation of the Diocles inscription (*I.G.* II, 489 b) is thus not in harmony with the other evidence.

Panathenaic Ship. — The ship could hardly have been carried down the precipitous slope and eastward of the cave of Apollo; and, even if it could, such an interpretation of Philostratus's words makes them inconsistent with Pausanias's "near the Areopagus," — a hundred and more yards away. If the ship stood below the cave, Pausanias must have mentioned it in connection either with the cave or with the Anaceum or its neighbors.

Propylaea. — The entire slope between the western wings was filled with earth, obliterating the marks which have suggested the "zig-zag road." No definite zig-zag road existed. The Diitrephes group of statues probably stood about the altar of Hygieia (cf. Furtwängler's view), and not in the east portico; their description by Pausanias constitutes one of his "λόγοι." No bench, but a base or series of bases, ran along the southern and eastern walls of the southwest wing of the Propylaea.

Cecropium. — The "Old Temple" may be the Cecropium. The common view that the tomb of Cecrops was under the southwest corner of the Erechtheum leaves no space for the *ἱερόν* of Cecrops (cf. *I.G.* II, 5, 563 b; etc.). Besides, the temple of Pandrosus was here; Pausanias's statement that it was *συνεχής* the temple of Athena is to be interpreted rigidly — as his use of *συνεχής* elsewhere. The expressions of the building-inscription, *πρὸς τοῦ Κεκροπίου* (once), and *πρὸς τῷ Κεκροπίῳ* (thrice), are most easily understood of the "Old Temple." The dative may imply closer proximity. This suggestion may throw light on the Hekatompedon inscription.

4. Professor H. L. Wilson, of Johns Hopkins University, *A New Roman Collegium*.

This paper is published in this number of the JOURNAL, pp. 94-96.

THURSDAY, DECEMBER 28. 9.30 A.M.

1. Professor H. E. Keyes, of Dartmouth College, *A Byzantine Madonna in the Princeton Art Museum*.

The paper discussed a Byzantine Madonna recently acquired by the Art Museum of Princeton University. The contention is made that the work in question, which presents an unusual iconography, is by the same hand as an almost identical panel in the Uffizi signed by a late thirteenth or early fourteenth century painter, Rico of Candia. Other examples of the same and similar iconographic details in later works are adduced to indicate the wide influence exerted by Rico not only in Italy, but in the lands east of the Adriatic.

2. Dr. G. B. Colburn, of Swarthmore College, *Ancient Lanuvium*.

Lanuvium is important as the seat of Juno Sospita, and interesting as the birthplace of influential men and as a residence of the Antonine emperors. Literary and epigraphic testimony regarding the site is not abundant. The site has been occupied since the

thirteenth century by Civita Lavinia, in the Alban Hills, twenty miles south of Rome. Local traditions and manuscript readings confuse Lanuvium with Lavinium. Unscientific excavations in this locality in the eighteenth and nineteenth centuries have yielded considerable good sculpture. In 1910 the writer was able, by a study of the extensive archaeological remains, to conjecture the general lines of the topography of the town. Modern local names were in some instances significant. The most important remains are the following: the subterranean aqueduct, still in use; portion of the Via Appia and of three outer roads; bridges and tombs; a villa, probably that of Antoninus Pius; a huge, curved retaining wall probably pre-Roman; a theatre from the age of the Antonines, now buried beneath the town; an excellently preserved wall of peperino blocks possibly pertaining to a temple of Hercules; a portico and quadriporticus upon high ground, probably used in connection with the sanctuary of Juno Sospita. One is tempted to conjecture that incubation was practised here. The great temple apparently stood on the summit of the hill, where the vineyard has never been explored. The grove, with its cave of the oracular serpent, is conjecturally placed on the slope to the west of this hill.

3. Professor William H. Goodyear, of the Brooklyn Institute of Arts and Sciences, *The Evolution of the Acanthus Ornament*.

This paper will probably appear in a later number of this JOURNAL.

4. Professor Allan Marquand, of Princeton University, *Some Recently Discovered Works of Luca Della Robbia*. (Read by Professor H. E. Keyes.)

This paper described a Madonna and an Adoration at Nynehead Church, Wellington, Somerset, and medallions representing Prudence and Faith in the hands of a Paris dealer. The Madonna resembles that formerly owned by the Marchese Viviani della Robbia and later by Prince Demidoff. The Adoration is unique in type. The medallion of Prudence is closely related to the medallion of Temperance in the Cluny Museum and to the Prudence in the vault of the Portogallo Chapel at San Miniato. The Faith is unique in type.

5. Mr. A. Kingsley Porter, of New York, *Early Rib-vaulted Construction in Italy*.

The chronology of Lombard architecture has been the subject of archaeological dispute for nearly a century. The importance of cer-

tain rib-vaulted Romanesque constructions of Italy has been recognized, but owing to the lack of documentary evidence it has not been clear whether such edifices preceded or followed the earliest rib-vaulted constructions in Northern France, which were erected about the year 1100. The only means of determining the question is to study systematically the Romanesque churches of Lombardy and certain other rib-vaulted buildings of Italy, which, though not situated in Lombardy, belong essentially to the Lombard style. These monuments have up to the present remained practically unknown, but are fortunately many of them surely dated, and may be arranged in a sequence, in which may be traced the rise, culmination, and decline of the Lombard style. When this is done, the chronology of Lombard architecture becomes clearly determined, and it is possible to date accurately even undated monuments by a comparison of style. In the light of these new monuments, of which there are a great number especially in rural districts, it becomes evident that the rib vault was known and practised in Italy sixty years before it appeared in France. In a series of edifices of the first half of the eleventh century, of which Lomello, Calvenzano, and Lodi Vecchio are the most important, may be traced every step in the formation of the Lombard style. The nave of Sannazzaro Sesia was rib-vaulted in 1040. Rib vaults were regularly employed throughout the second half of the eleventh century, and in San Savino of Piacenza we have a rib-vaulted monument consecrated in 1107 and evidently later in style than Sant' Ambrogio of Milan or San Michele of Pavia. At Corneto Tarquinia there are numerous hitherto unknown rib-vaulted churches, the earliest of which cannot be later than 1090. The importance of the Lombard school in the history of architecture is thus demonstrated. It is evident that in Italy the rib vault was adopted merely as a constructive expedient to economize centring in wood, and that for the same reason it was borrowed by the builders of Northern France.

6. Professor W. W. Baker, of Haverford College, *Ancient Ways in Modern Greece*.

The land and people of Greece are to-day one of the best illustrations of ancient Greek literature and archaeology. The clear air (Eur. *Med.* 829), the bright purple of Hymettus (Ov. *A. A.* 3, 687), the fair-flowing Cephissus (Eur. *Med.* 835), with its wandering streamlets of irrigation (Soph. *O. C.* 686), the dust of Athens (*F.H.G.* 2, 254), are all there. The verdure of Colonus (*O. C.* 16 ff.), and the grassy spot by the Ilissus (Plat. *Phaedrus*, 229 B ff.), are only apparent exceptions. The products of Attica (Xen. *Mem.* 2, 9, 4), the frog-chorus (Ar. *Ran.* 209 ff.), the mosquitoes of Tricorythus (Ar.

Lys. 1032), the dung-beetles (*Fab. Aesop.* 7; 185), the fierce dogs of the hills (*Od.* 14, 31 ff.), are the same as ever.

The people show the same Homeric curiosity, the same love of leisure and aversion to manual labor, the same democratic spirit, traces even of the ancient contempt for the "barbarian." The love of life and horror of death are as intense as ever; a modern funeral much like the old. The retirement of women and their debarment from most employments (cf. *Xen. Mem.* 2, 7), the importance of the dowry, usages connected with the naming of children, the custom of early rising, much of the food, parts of the dress, many of the implements of daily use, may be closely paralleled in antiquity.

In the minor business world the κύκλοι still survive, the countless peddlers with their constant cries (*Ath.* 2, 55 D; 8, 358 E; *Ar. Ach.* 33 f.), the bungling or tricky artisans (*Ar. Eq.* 316 ff.; cf. *Xen. Mem.* 3, 10, 10), the cunning hucksters (*Ar. Av.* 1080).

The government is nearly as direct a democracy as in Cleon's day. Many religious usages and many beliefs and superstitions are pagan (cf. B. Schmidt, *Das Volksleben der Neugriechen*, and J. C. Lawson, *Modern Greek Folklore*); for example, the symbolic funeral processions of Good Friday evening, which seem to be derived from the Adonia (cf. *Plut. Alc.* 18; *Nic.*, 13).

7. Dr. Alfred Emerson, of the Art Institute, Chicago, *Kallimachos and the Delphic Dancers*.

No abstract of this paper was received.

THURSDAY, DECEMBER 28. 2.30 P.M.

1. Professor Thomas Jex Preston, Jr., of Wells College, *The Apocrypha and the Annunciation in Art*.

No abstract of this paper was received.

2. Professor Franz Cumont, of the Musées Royaux of Brussels, *Roman Eschatology Illustrated by Monuments and Inscriptions*.

No abstract of this paper was received.

3. Dr. Kendall K. Smith, of Harvard University, *A Relic from an Ancient Schoolroom*.

A wooden tablet from Egypt, now in the British Museum, on which are written in ink six lines from the *Iliad* (I, 468-473), was the object discussed in this paper. Reference has already been made to it in *J.H.S.* XXIX, 1909, p. 39. The peculiar feature of this tablet is

that, while the top edge of the board with iron handle attached, is preserved intact, the quotation from Homer begins in the middle of a sentence. Further, the first line on the tablet comes at approximately the middle of a passage which has been criticised as a cento of familiar lines. The suggestion made was that a pair of these tablets hung together in some Egyptian schoolroom of not later than the fifth century A.D., and were used for various exercises in ancient elementary education.

4. Professor Wallace N. Stearns, of the University of North Dakota, *Deir el-Bahari and Abydos*.

The finds at Abydos cover a long period. A temple of Osiris stood here as early as the sixth dynasty, possibly before the first. Inscriptions cover with intervals a period from the sixth to the thirtieth dynasty. Back of Menes is a line of kings whose tombs have been recovered at Abydos. Earlier than these are the square or oval pits, predynastic tombs, with their contracted burials — the bodies not mummified, but protected above and below by a layer of skins, which is in turn protected by a layer of matting. "These tombs belong to a people that had attained to the neolithic stage of culture." Of palaeolithic folk there remain great numbers of rude flint implements scattered about on the surface of the desert and now exposed by denudation. Present interest centres at the temple of Seti I, dedicated to Osiris. A trial working made in 1901-02 unearthed a long passage within the temenos back of the temple. The work of 1902-03, conducted by Miss Murray, reached a maximum depth of forty-one feet down to the desert level, and brought to light a sloping subterranean passageway 200 feet long, the sandstone pavement of a great hall (34 × 15 ft. and 17 ft. high). From this led out three doorways, — south, north, and east, — the last leading to a sloping passageway. The roof and east wall have been defaced or destroyed. The west wall shows in three panels: 1, a colossal scene of the revivification of Osiris; 2, the chapter (119) on "Knowing the Names of Osiris"; and 3, Merenptah standing before a table heaped with offerings and offering incense. The walls of an adjoining chamber show the 148th chapter of the Book of the Dead, a chapter otherwise known only from three papyri. A line following the axis of Seti's temple also follows the line of the sloping passage (worked in 1902-03), the centre of the great hall, through the desert pylon to the royal tombs. "That this hypogeum should be a part of the temple dedicated to the worship of the dead, with special apartments for the celebration of the Osireion rites seems natural and fitting." Here once more at Abydos the Egypt Exploration Fund is at work, 1911-12, under the direction of Professor Naville.

5. Professor Frank B. Tarbell, of the University of Chicago, *Etruscan Sarcophagi and Urns in the Field Museum of Chicago*.

The writer reported on seven ancient objects from Etruria, now in the Field Museum of Chicago, viz. two archaic Faliscan sarcophagi, decorated with paintings, three alabaster urns with relief sculpture, one alabaster urn with painted designs, and one alabaster sarcophagus. The last five objects are, some or all of them, from Chiusi. They belong to the third and second centuries B.C.

THURSDAY, DECEMBER 28. 8 P.M.

1. Dr. Joseph Clark Hoppin, of Washington, *The Excavations at Cyrene: First Campaign, 1910-1911*.

The substance of this address has appeared in the *Bulletin of the Archaeological Institute of America*, Volume II, 1911, pp. 141-176.

2. Professor Howard Crosby Butler, of Princeton University, *The Excavations at Sardis: Second Campaign, 1910-1911*.

The substance of this address has appeared in this JOURNAL, Volume XV, 1911, pp. 445-458.

FRIDAY, DECEMBER 29. 8 P.M.

1. Mr. Bert Hodge Hill, Director of the American School of Classical Studies at Athens, *The Excavations of the American School at Athens, 1910-1911*.

An account of the excavations, chiefly at Corinth, carried on by the School.

2. Mr. T. Leslie Shear, of Columbia University, *Trial Excavations at Cnidus*.

A report of investigations carried on at Cnidus by Mr. Shear.

3. Dr. Arthur L. Frothingham, of Princeton, *The Real Explanation of the Founding and Early Growth of the City of Rome*. (Read by Professor Fowler.)

Rome consisted at first of three or more towns on different hills, which were not united as a single city until just before Servius Tullius. The explanations given for this unique peculiarity were that these settlements were founded at different times or by different tribes. All such explanations are unsupported hypotheses.

The present explanation is based on the ritual governing the founding of Italic and early Roman cities, whose site was always marked out and consecrated by augury. It was a fundamental part of ritual and belief that running water stopped auspices and augury: beyond it no ritual formulas could reach. No city boundary could contain running water without losing its urban auspices and the protection of the gods and being open to the attack of inimical spirits. No running water is found within Etruscan, Latin, or Umbrian cities or early Roman colonies.

Now, the hills of Rome were separated by streams and swamps. Its first inhabitants were obliged by ritual to establish as many urban centres as there were groups of hills girdled by water. The Capitol, Quirinal, and Viminal formed one such group; the Palatine, Velia, and Esquiline, a second; the Caelian, a third. These may correspond to the three original tribes (Ramnes, Tities, and Luceres), and also to the commonly received locations of the settlements.

After a century or two came the building of the great cloacas, not for sewage but to underdrain the lowlands. This covering of the running waters first made it possible to consecrate all these hills under single urban auspices, making Rome a united city. Chronologically these two facts seem contemporary, but their interdependence has never been seen. The Aventine was not then brought into the pomerium because swamps still intervened.

Among the consequences are: (1) the early settlements were towns, not villages, and were not successive but contemporary; (2) their disunion was merely formal; (3) the united city was one of Three rather than Four Regions; (4) the three tribes and the curial organization long continued dominant, especially in religion and even topography, the four tribes and regions of Servius Tullius being for military purposes only.

ARCHAEOLOGICAL NEWS¹

NOTES ON RECENT EXCAVATIONS AND DISCOVERIES; OTHER NEWS

WILLIAM N. BATES, *Editor*

220, St. Mark's Square, Philadelphia, Pa.

GENERAL AND MISCELLANEOUS

INTERNATIONAL CONGRESS OF ARCHAEOLOGISTS. — The third international congress of archaeologists will be held in Rome, October 9 to 16, 1912. There will be ten sections devoted to prehistoric, Oriental, pre-Hellenic, and Italian archaeology; Greek and Roman art, antiquities, epigraphy, numismatics, and mythology; and ancient topography.

INTERNATIONAL CONGRESS OF AMERICANISTS. — An international congress of Americanists will be held in London, May 27 to June 1, 1912.

THE IMPERIAL GERMAN ARCHAEOLOGICAL INSTITUTE.

— Hans Dragendorff, formerly director of the Roman-Germanic Commission, has been appointed General Secretary and President of the Central Committee of the Imperial German Archaeological Institute; and R. Delbrück, First Secretary of the Institute at Rome. (*Arch. Anz.* 1911, col. 58.)

BULGARIA. — **Discoveries in 1910.** — B. Filow publishes in *Arch. Anz.* 1911, cols. 349-370 (12 figs.), a résumé of archaeological finds in Bulgaria in 1910. At **Aquae Calidae** (Aytoska Banja) the Roman bathing tanks, built about the time of Nero, were found some 6 m. underground, and both beneath and above the floor, a vast number of coins and other small offerings which show much of the history of the place. Excavations at the church of St. Sophia at **Sofia** have brought to light, at depths of 1.30, 1.10, and 0.60 m. below the present Turkish tiled floor, two Roman mosaic pavements belonging to churches apparently of the beginning and end of the fourth century, and the original stone flooring of the present building,

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Mr. L. D. CASKEY, Miss EDITH H. HALL, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor FRANK G. MOORE, Professor CHARLES R. MOREY, Dr. JAMES M. PATON, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Dr. N. P. VLACHOS, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after January 1, 1912.

For an explanation of the abbreviations, see pp. 160, 161.

dating from the sixth century. A number of tombs belonging to the oldest church and others from the thirteenth and fourteenth centuries were opened, all dated by coins. Excavations on the fortifications at **Pautalia** (Köstendil) have continued. A large number of coins with jewelry and other objects from Roman graves were excavated, mostly surreptitiously, at **Ratiaria**, including a second century grave stele of Valerius Alexander; others at **Mezdra** and at **Nicolaëvo**, among the last being a silver salt-sprinkler in the form of a child hugging a pet animal. From **Messembria** comes an archaizing Hellenistic marble bearded head of Hermes, and from **Lom** (Almus) and **Madara**, two votive reliefs of some importance for the history of Thracian religion, one of the Thracian horsemen, the other of Hercules Invictus. The Bulgarian Archaeological Society published in 1910 the first volume of an annual in which all these discoveries were fully treated.

ROUSTCHOUK. — **A Mithriac Relief and an Inscription.** — A Mithriac relief, found at Roustchouk, Bulgaria, in the summer of 1910 and now in the museum at Sofia, is published, and described by G. KAZAROW in *R. Arch.* XVIII, 1911, pp. 73-75 (fig.). It is divided into three zones, in the chief of which the customary slaying of the bull is represented. The following inscription on a slab now built into the wall in the court of the military club at Roustchouk is also published: *D(iis) M(anibus) | Aurelio Coto | vet(erano) al(ae) II Arab(acorum) | vixit annis | XXXXVII, Aur(elius) | Helpideforus | et Papias et Iu- | lia Juliana co- | niunx patro- | no . . .* The letters are those of the second century A.D.

LANGAZA. — **A Macedonian Tumulus.** — A Macedonian tumulus containing a two-chambered tomb of extraordinary beauty of design and delicacy of workmanship, situated 9 km. north of Salonica, has been excavated for the Ottoman government. The tomb, which is by a Greek architect and not later than 400 B.C., was made for a single burial and for a person of the highest rank, probably military. It had been plundered of its contents, especially of all movable metal, but the architectural details and the two doors, an outer one of wood and an inner one of marble, are preserved, at least sufficiently for reconstruction. The marble doors, perhaps the finest specimens known, are now exhibited in the Ottoman Museum. (T. MACRIDY, *Jb. Arch. I.* XXVI, 1911, pp. 193-215; 5 pls.; 26 figs.)

NECROLOGY. — **Paul Gauckler.** — Paul Gauckler died by suicide at Rome in December, 1911, after continued sufferings due to ill health. Born in 1866 at Colmar, he was a graduate of the École Normale and a member of the French School at Rome. After a term of service in the Algerian museums of Constantine and Cherchell, he was appointed to the post of director of antiquities in Tunis, which he held until 1905. At this time he began a series of important explorations in the Roman villas of Oudra; at Carthage, where he excavated the Punic necropolis and uncovered the theatre and the Odeum with its numerous statues; at Susa, where he discovered the famous "Virgil mosaic"; and at Dougga and Gightis. To these discoveries is due the great development of the Tunis museum. His last and best known work was the commentary on the discoveries on the site of the "Temple of the Oriental Gods" on the Janiculum at Rome. (*Chron. Arts*, 1911, p. 295; *R. Arch.* XVIII, 1911, pp. 458-460.)

Edmond Saglio. — Edmond Saglio died in Paris in December, 1911. He was born in Paris June 9, 1828, from 1871 to 1893 was conservateur at the

Louvre, and from 1893 to 1903 director of the Cluny Museum. He published in 1873 in collaboration with C. Daremberg a dictionary of Greek and Roman antiquities now in its third edition. (*Athen.* December 16, 1911, p. 773; *R. Arch.* XVIII, 1911, pp. 456-458.)

Adolf Struck. — Adolf Struck, assistant and librarian at the German Archaeological Institute at Athens, has died in his thirty-fifth year. Among his works are *Mistra, eine mittelalterliche Ruinenstadt*, and *Athen und Attika*.

SALONICA. — **Latin Inscriptions.** — In *Berl. Phil. W.* XXXI, 1911, col. 918, P. N. PAPAGEORGIU publishes four Latin grave inscriptions from Salonica. *Ibid.* col. 1205 he publishes a Greek grave inscription of 179 A.D., and republishes two others.

THRACE. — **Projected Publication.** — In *R. Arch.* XVIII, 1911, pp. 301-316, G. SEURE outlines a project for the publication in the *R. Arch.* of a series of articles in which inedited or little known monuments of Thracian archaeology are to be made known.

EGYPT

DISCOVERIES IN 1910. — A brief résumé of the excavations made in various parts of Egypt during the year 1910-1911, by F. ZUCKER, is given in *Arch. Anz.* 1911, cols. 238-242. He notes the following: The discontinuance of the Berlin Papyrus Expedition; the beginning of work at Tell-el-Amarna by the Germans; the discovery of several temples and graves on the west side of Thebes, with two beautiful inlaid wooden coffins of the twenty-second dynasty; Lord Carnarvon's excavations of 80 burials and valuable single finds of the twelfth, Hyksos, and eighteenth dynasties; in the neighborhood of Assuan, a necropolis with graves of prehistoric, Middle Empire, and Byzantine times, one of the Middle and New Empires, a Nubian cemetery, and a Coptic church and monastery built over a Ptolemaic temple; at Saqqara, a cemetery of the first three dynasties; a step pyramid between Gizeh and Abusir. In *R. Arch.* XVIII, 1911, pp. 317-337, is a letter from A. J. REINACH in which an account of excavations in Egypt in 1909, 1910, and the first two months of 1911 is given.

DISCOVERIES IN 1911. — In *Rec. Past*, X, 1911, pp. 303-315 (11 figs.), W. M. FLINDERS PETRIE describes briefly the work of the Egyptian Research Account in Egypt in 1911. At **Hawara** about forty good portraits were found painted on wooden panels. On the site of the labyrinth at a depth of from 20 to 25 feet the upper parts of half a dozen statues of the gods of the twelfth dynasty were found, the earliest such figures known. There were also found two immense shrines of red granite each containing two life-size figures of Amenemhat III. Many fragmentary wall sculptures lay about, including one which shows the king kneeling in a boat and opening a shrine containing a holy tree. At **Gerzeh**, near Meidum, a prehistoric cemetery was discovered with the earliest iron known. Two new pyramids of complex construction were found at **Mazghuneh**, south of Memphis. At **Memphis** considerable sculpture from the temple of Ptah came to light.

ABU SIMBEL. — **Excavations at the Great Temple.** — In *The Illustrated London News*, November 25, 1911, is a fully illustrated article by A. E. P. W (EIGALL), describing the great rock-cut temple at Abu Simbel

and especially the discoveries made by clearing away the sand in front of the entrance. Work was begun in 1909. A wide terrace was uncovered; here was a small chapel in which stood an altar with two obelisks before it and a shrine beside it. In the shrine were a large scarab-beetle and an ape, and upon the altar four apes. A row of statues—figures of the Pharaoh and of the sacred hawk of the sun alternating—extends across the whole breadth of the terrace. These statues heighten the effect of the enormous rock-cut colossi of the façade. The colossi themselves have been repaired.

CAIRO.—A Hittite Bronze Statuette.—In *Ann. Arch. Anthr.* IV, 1911, pp. 88–89 (pl.), J. OFFORD publishes a bronze statuette probably found in the Delta of Egypt and now in the possession of a dealer in Cairo. It represents a female deity, with a peculiar headdress, standing on a lion or a panther. The figure is remarkable, as the width of the bust, the position of the right arm, and the anklets resemble Hindoo work.

EKHMÎM.—Inscribed Tombs.—In *Ann. Arch. Anthr.* IV, 1911, pp. 99–120, P. E. NEWBERRY publishes the inscriptions of twenty-seven tombs of Ekhnun, the city of the thunderbolt god Min, found by him early in 1911. A twenty-eighth tomb was uninscribed. They date from the sixth to the twelfth dynasty. One untouched burial of the Old Kingdom contained three painted wooden coffins, the inscriptions of which are also published.

MEROE.—Discoveries in 1911.—In *Ann. Arch. Anthr.* IV, 1911, pp. 45–52 (6 pls.), J. GARSTANG reports upon the excavations at Meroe

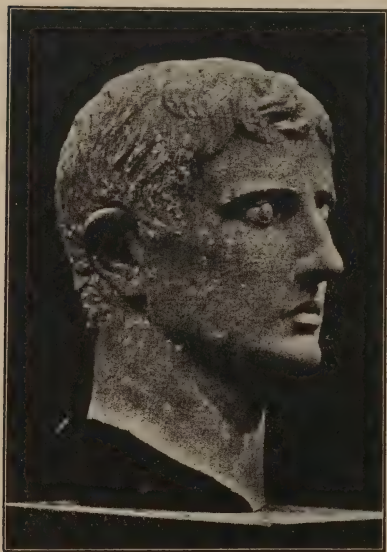


FIGURE 1.—HEAD OF AUGUSTUS FROM
MEROE.

from December, 1910, to February, 1911 (see *A.J.A.* XV. p. 409). On the wall of the temple of the Sun were found sculptures, among which appeared the temple as it originally stood. Another scene apparently represents the building to the east. A king seated on his throne, warriors on galloping horses, and a captive dragged along by a cord attached to his leg while a soldier drives him on with his spear, are among the scenes. A wall 300 m. by 150 m. encloses the "royal city"; its west side seems to have fronted on the river in antiquity. Two large buildings were excavated, both apparently dating from about the Christian era, and built over earlier structures. One of them was probably a palace. A pit near by, full of rubbish, contained many miscellaneous objects, including Egyptian inscriptions dating from the eighth to the sixth century B.C. In the

centre of the building an empty treasure chamber was found 4 m. below the surface and not far from it two jars full of gold dust and nuggets. In one of them was also gold jewelry bearing the names of the kings

Uaz-ka-Ra and Mal-neqen. In the second building a hoard of bronze objects was discovered and a large scarab of Amenhotep, mentioning Queen Tii. Near a small building to the north of the palace, bronze fittings of a throne came to light, including an image of a prisoner with his ankles tied to his elbows. A gold wire was about his neck. Another small building had walls covered with stucco and painted scenes representing in gorgeous colors a king and queen, officials, and captives. Just outside the doorway in a pit of sand was a remarkable bronze head of Augustus (Fig. 1). A well-preserved shrine was excavated on a mound of slag which had accumulated over early foundations. There was no bronze or copper age in Ethiopia. *Ibid.* pp. 53-65, A. H. SAYCE discusses the historical results obtained. The first Ethiopian king of Egypt was apparently Mal-neqen. Two other kings, Aspalut, called also Mer-ka-Ra, and Hor-mat-leq or Uaz-ka-Ra followed Mal-neqen, but the order in which they ruled is uncertain. They lived before 800 B.C. The names of other members of the dynasty were found, especially on the handles of sistra presented by the queens to the kings on New Year's Day. The later kings of the twenty-second dynasty in Egypt, as well as those of the twenty-third and twenty-fourth dynasties, must have ruled as subjects of the kings of Ethiopia. The Ethiopian conquest of Egypt must have occurred shortly after the death of Osorkon II about 800 B.C. Less is known of the later history of the country. The influence of Greek culture is apparent from the time of Ergamenes. After the partial destruction of Meroe in the first century A.D., negro influence began to be felt, so that in the fourth century, when the city was destroyed, it had practically ceased to be Ethiopian. *Ibid.* pp. 66-71 (5 pls.), R. C. BOSANQUET publishes the bronze head of Augustus. It is a remarkably fine piece of Roman sculpture and had originally belonged to a statue about eight feet high. The eyes, which are set in, are staring. Augustus travelled through Egypt in 30 B.C., and the statue may have been set up to commemorate his visit. It is now in the British Museum.

BABYLONIA AND ASSYRIA

YÔKHA.—*A Tablet of Basiûm, King of Guti.*—In *C. R. Acad. Insc.* 1911, pp. 318-327 (fig.), FATHER SCHEIL publishes a marble tablet with fifteen lines of archaic cuneiform writing from Yôkha, the ancient Umma. It is dated "in the time of Basiûm, king of Guti," and bears the name of the patesi Lugal-annatum. The character of the writing shows that it dates from the time of the dynasty of Ur, or earlier.

SYRIA AND PALESTINE

ARCHAEOLOGICAL REMAINS BETWEEN HOMS AND HAMAH.—In *Eph. Sem. Ep.* III, 1911, pp. 157-184 (23 figs.), M. LIDZBARSKI describes an archaeological journey between Homs and Hamah, which he undertook in November, 1910. It resulted in the discovery of a number of Greek ruins and inscriptions, and of one tablet containing the bust of a man in an Assyrian-Aramaean style; also of a number of dolmens, which seem to have served partly as tombs and partly as altars.

'AIN SHEMS.—*The Excavations of the Palestine Exploration Fund.*—The July and October numbers of the *Pal. Ex. Fund*, XLIII, 1911,

are devoted mainly to an account of the excavations that have been begun this year at 'Ain Shems, the Biblical Beth-Shemesh. On pp. 130-134, C. WATSON gives a summary of results: the old wall of the town has been traced all round the hill, parts have been laid bare to the foundation, showing that there have been several periods of construction, the earliest dating very far back. The south gate of the town has been discovered, well defended with towers and guard-chambers. Possibly this was the only gate; but it is too soon to say with certainty, as the whole of the north wall has not yet been excavated. Great quantities of pottery of all ages have been found, but these are not yet classified. Some pieces are apparently from Cyprus or the Greek islands. Flint implements and bronze and iron objects have been found, while other articles belong to an Egyptian occupation of the city, — possibly of the eighteenth dynasty. On pp. 139-142 (map), and pp. 169-172, D. MACKENZIE gives his official reports as director. Eight tombs, discovered in the northwest necropolis, were thoroughly searched, and their contents carefully tabulated. They fall into two main types; one, the earliest type of rock-tomb as yet observed, is the "troglodyte" cave-tomb of natural formation, with a natural entrance at the side which, however, is supplanted by a vertical well-like shaft sunk direct through the roof of the tomb. The other type has a cylindrical shaft like the preceding, and from it a narrow inclined tunnel descends into the chamber. The last is rectangular in shape, with a divan arrangement and a separate façade entrance — a miniature door-shaped portal closed by a stone slab. The pottery jars found in the tombs were nearly all one-handed, and in one vase in particular, remarkable for its elegance and refinement of shape, the section was almost "egg-shell" in its thinness, reminding one of a Chinese saucer. Astarte figurines were found with other objects (figurines of Bes and Isis, scarabs, etc.), which betray a distinct and dominant Egyptian influence. There is a conspicuous absence of objects suggestive of Babylonian or Aegean connections. On pp. 143-151 (4 figs.), H. VINCENT gives some notes on a visit to the explorations at Beth-Shemesh.

CARCHEMISH. — **British Excavations.** — Excavations carried on at Carchemish or Karkemish (Djerablous) by Messrs. Hogarth and Campbell Thompson for the British Museum have led to the following discoveries: 1, the longest known Hittite inscription; 2, a great stairway, flanked by great slabs with reliefs, which leads from the lower to the upper city; 3, a winged lion whose head is surmounted by a human head; 4, a column-base with two lions in relief; 5, a great quantity of pottery; 6, neolithic deposits immediately under the Hittite strata (tending to show that neolithic civilization was less early than has been thought). The excavations are to be continued. (S. R., *R. Arch.* XVIII, 1911, p. 366.) In *The Illustrated London News*, June 3, 1911, D. G. HOGARTH gives a résumé of what is known of the Hittites and their empire, which lasted from about 1800 to about 1250 B.C. See also A. H. SAYCE on Carchemish in *S. S. Times*, LIII, 1911, p. 550.

DAMASCUS. — **The Right of Asylum.** — In *Mél. Fac. Or.* V, 1911, pp. 71-75 (2 pls.), N. GIRON publishes a Greek inscription of thirteen lines found near the French consulate at Damascus. It was cut on a column in the fifth or sixth century A.D., and conferred the right of asylum on a local church.

JERUSALEM. — **The Recent English Excavations on Ophel.** — In *R. Bibl.* VIII, 1911, pp. 440-442, 566-591 (5 figs.; 4 pls.), M. J. LAGRANGE

and H. VINCENT discuss the recent reports in the newspapers, that the English excavator, Captain Parker, and his party violated the mosque of Omar by running a tunnel under the mosque enclosure without permission of the authorities, and that they found the tomb of David and took from it treasures which they secretly carried out of the country. There is absolutely no truth in this story and no startling finds of any sort were made. The real results of the exploration were an investigation of the source of the spring known as the Virgin's Fountain, of the network of canals and galleries connected with it, of the subterranean passageway between the fountain and the top of Ophel, of the aqueduct leading to Siloam, and of certain sepulchral chambers and pottery that turned up in the course of the excavations. See also *Standard*, October 12, 1911, and W. F. BIRCH in *Pal. Ex. Fund*, XLIII, 1911, pp. 187-189.

NORTHERN SYRIA. — An Unexplored District. — In *S. Bibl. Arch.* XXXIII, 1911, pp. 171-179 (pl.), A. H. SAYCE tells of a visit to the site of the old Hittite capital Carchemish, where D. G. Hogarth had just begun excavations for the British Museum. His starting point for the Euphrates was naturally Aleppo, and he followed one route on his way eastward and returned by another. Both routes led him through an unexplored district, which is a blank in the most recent map — that of Kiepert — though he found in it many ancient *tels* and a few modern villages.

ASIA MINOR

ALASCHEHIR. — A Portrait of Commodus. — In *Jh. Oest. Arch. I.* XIV, 1911, Beiblatt, cols. 45-48 (fig.), A. v. PREMERSTEIN and J. KEIL publish a monument found by them in the spring of 1911 at Alaschehir (Philadelphia). In a small pediment is a bust of the emperor Commodus, on either side of which and on the mouldings below is the inscription: Ἀγαθὴ τύχη. ὑπὲρ τῆς | τοῦ αὐτοκράτορος | Κομμοδου τύχης καὶ διαμονῆς | οἱ ἔρωτες ἐποίησαν ἐκ τῶν ιδίων. Then follow the names of twenty-one persons.

ANTIOCH IN PISIDIA. — The Sanctuary of Men Askaenos. — In *Athen.* August 12, 1911, pp. 192-193, W. M. RAMSAY announces the discovery of the sanctuary of Men Askaenos on the summit of a mountain 5000 feet high, four miles east of Yalowadj and about the same distance southeast of the ancient city of Antioch in Pisidia. There was no temple, but a great altar, 66 feet by 41 feet, within an open space 241 feet by 136 feet, surrounded by a wall 5 feet thick. Close by was a theatre or small stadium, and 200 yards away a church beside a fountain. The church was built of stones taken from the sanctuary, and at least one bears the name *Men Askaenos*. The sacred way, winding up the mountain, may be traced by the roadbed and by the votive reliefs on the rock. The precinct wall is covered with dedicatory inscriptions, of which seventy, dating chiefly from about 300 A.D., were copied. The peculiar verb *τεκμορεύω* occurs several times in them. The church is important as an example of fourth century ecclesiastical architecture.

BARGYLIA. — The Worship of Isis and Sarapis. — In *Jh. Oest. Arch. I.* XIV, 1911, Beiblatt, cols. 57-58, J. KEIL publishes a much mutilated Greek inscription recently found at Bargylia, in which there is men-

tion of Isis and Sarapis. It is important as evidence for the introduction of the worship of these divinities into Asia Minor in the third century B.C.

CAPPADOCIA. — An Archaeological Journey. — In *Mél. Fac. Or. V*, 1911, pp. 283–303 (8 pls.), G. DE JERPHANION gives an account of a journey in Cappadocia in 1907, in which he was able to correct Kiepert's map in many places. He describes the ancient remains of Comana, as well as those at Djadjik and Deleli. *Ibid.* pp. 304–328, L. JALABERT publishes thirty-two Greek, and one Latin inscription found on the journey.

MILETUS AND DIDYMA. — The New Excavations. — The results of excavations at Miletus and Didyma since 1907 are given by TH. WIEGAND in a report which indicates that the work approaches its end (*Siebenter vorläufiger Bericht über die von den königlichen Museen in Milet und Didyma unternommenen Ausgrabungen*. Anhang zu den *Abh. Berl. Akad.* 71 pp.; 13 pls.; 16 figs. 4to. Berlin, 1911). Remains of a prehistoric settlement were found on the Kiliktepe. The Hellenistic wall was further investigated and the general plan of the city made clearer. The size of the normal *insula* was 29 by 55.50 m. and the normal width of the street was 4.40 to 4.50 m. Among the buildings of the southern market a fine Corinthian building dedicated to Laodice, perhaps the wife of Antiochus II, is especially interesting. Apparently a temple of the Roman People and Roma was also in the southern market, judging from an inscription. West of this market was a large latrina and farther on a long two-aisled Hellenistic building, probably a warehouse for grain. Its plan and elevation have been reconstructed as have also those of the temple of Sarapis. In the ceiling here are busts of deities, among them one copying the Apollo of Canachus. To the north was a rectangular court with colonnades, probably a palaestra or gymnasium. The western end of the stadium has been found. Toward the west of this was a splendid propylon with fine Ionic architecture of Hellenistic date. Near this was a gymnasium. The work at the baths of Faustina is finished. The *apodyterion* and the room with the tank of cold water were especially well preserved; here two pieces of decorative sculpture — a figure of the river Maeander and a Hellenistic lion, both serving as fountains — could be restored to their original places. The baths were connected with the stadium by a court with fine composite capitals and Corinthian superstructure. Another bath, which preserves the house type, was laid bare on the Hermēitepe. A Byzantine basilica of the sixth century was discovered west of the northern market. At **Didyma** the Sacred Way and the limits of the ancient town were investigated. Before the eastern front of the great temple was a nearly semicircular terrace for votive offerings, which was separated by a heavy retaining wall from the higher ground to the eastward. In front of the temple are the foundations of the archaic round ash-altar. Somewhat to the northwest is a round Hellenistic fountain. The place along the south side of the temple seems to have been arranged as a stadium. More than half of the great temple is now laid bare and is exceptionally well preserved. All the columns are standing to a height of several metres. The bases of the columns at the eastern end were decorated; the others had the usual Asiatic-Ionic form. The rear wall of the pronaos is standing to a height of 11 m. In the middle of it is a doorway framed in great monolithic blocks. A threshold 1.50 m. high hindered access to the middle room. This doorway had no door, but there may have been curtains. At both sides low and

narrow passages in the wall of the pronaos led to the *adyton*, which lay 4.50 m. lower. These passages have fine barrel vaults. Each passage ends beside the great stairway and here are two narrow rooms, the ceilings of which are decorated with a deeply cut, large maeander pattern instead of coffers. An imposing stairway, 16 m. wide, led down 6 m. into the main hall. Among the inscriptions found are several relating to the building of the temple, lists of treasures, honorary decrees, etc. Parts of a decree in honor of Eumenes II provide for distributions of grain on his birthday. From the data concerning the amounts of grain, the population of Miletus can be estimated as from 70,000 to 100,000. (A summary of this report is contained in *Arch. Anz.* 1911, cols. 419-443; 16 figs.)

NYSA.—**Recent Explorations.**—The site of Nysa on the Maeander has been mapped, and to some extent excavated, by three German military officers and an archaeologist. Although its nearness to the railway and highroad have caused the sculptures and movable marbles to disappear, yet one or two interesting inscriptions survive, and the position and architectural character of the principal public buildings are still discernible. Strabo was a student here about 50-45 B.C., and has left accurate descriptions of the city and of some of the neighboring places which have been identified. These are the villages of Acharaca, with sulphur springs, a healing oracle, and an annual fair, and Aroma, celebrated for its wines, and the plain anciently supposed to be Homer's "Asian meadow" (*Ἀσίῳ ἐν λειμῶνι*, *Il.* II, 461). The last mentioned is still, as in his time, the scene of an annual midsummer religious festival, which is visited by the country folk from miles around. (*Arch. Anz.* 1911, cols. 42-45.)

SAMOS.—**Excavations at the Heraeum.**—Excavations at the Heraeum of Samos were begun in December, 1910, by Dr. Wiegand, whose first preliminary report appeared in August, 1911 (THEODOR WIEGAND, *Erster vorläufiger Bericht über die von den kgl. Museen unternommenen Ausgrabungen in Samos*. Anhang zu den *Abh. d. kgl. Preuss. Akad.* Berlin, 1911, G. Reimer. 71 pp.; 13 pls.; 16 figs. 4to). The temple, which was dipteral, with eight columns across the eastern end and nine across the western, was built chiefly of *poros*, though the outer columns were of marble. Fragments of capitals with volutes prove that Vitruvius erred in stating that the temple was Doric. The pronaos between the antae was very deep and contained two rows of five columns each. Between the antae and the outer columns were two rows of columns across the front. No traces of columns have been found in the chief room, which may have been open to the sky, though a roof without inner supports (23 m. in the clear) is not impossible. There was no opisthodomus and no door at the western end. Here three rows of nine columns each extended across the building. Measured from the axes of the corner columns, the temple was 108.730 m. long and 52.414 m. wide. There were 24 columns in each row at the sides. Remains of an earlier temple of *poros*, about one-third smaller than the later structure, was found. Rhoecus (Herod. III, 60) was apparently architect of the earlier temple, and the book by Theodorus (Vitruv. VII, 1, 12) was about the same building, which was probably destroyed by Otanes in 517 B.C. (Herod. III, 147). The new structure was probably begun in the last years of the sixth century and the work was continued in the fifth century, but never completely finished.

SOUTHWESTERN ASIA MINOR. — A Journey in Northern Lycia, Southwestern Pisidia, and Southern Phrygia. — In *B.S.A.* XVI (session 1909-1910), pp. 76-136 (2 pls.; 11 figs.), A. M. WOODWARD and H. A. ARMEROD describe the results of a short journey in the district lying to the west of Adalia (Attaleia in Pamphylia) undertaken in June and July, 1910. Mr. Woodward signs the description of the route followed, with notes on remains of classical antiquity (pp. 76-89), and deals with the inscriptions found (pp. 105-130) and the coins purchased (pp. 130-136). Mr. Armerod deals with the prehistoric sites, the objects found on them, and the pot-fragments (pp. 89-105). The route led from Adalia to Termessus, thence to Isinda, near which several sites were investigated, through the plain of Elmalı, past Lake Karalitis, and finally to Hierapolis. In the plain of Itánoz, in the southwest of Pisidia, twelve prehistoric sites were noted; in the plain of Elmalı three; on Lake Karalitis one; in the plain of Tefénny two; and one to the east of Adji Badem. The civilization represented by these early settlements seems to be of a uniform character. The pottery comprises unpainted wares of the Bronze Age and painted wares of the Early Iron Age. The strongest influence is that of Cyprus, and next perhaps in importance, a survival of Mycenaean tradition in a degenerate form, while certain schemes of ornament point to a non-Aegean origin. A megalithic house at Kevzer-alteu-euyuk belongs to the Early Iron Age. Twenty-nine inscriptions are published or discussed. All are late Greek, chiefly interesting, perhaps, on account of the proper names they contain. One metrical inscription on a sarcophagus at Ouzoun-Gouyou-Kahve explains the symbols carved in the stone (*σκήπτρον* and *καλαῦρος*, or crook) as the staff of Hermes and an "imitation of the end of men," because all human life bends at its end.

GREECE

ARCHAEOLOGY IN GREECE IN 1910. — G. KARO's summary of recent archaeological work and discoveries in Greece and the Islands, Asia Minor, and Crete, is published in *Arch. Anz.* 1911, cols. 119-158 (3 figs.). The results of the activities of the Greek Archaeological Society in Athens, Euboea, Boeotia, Thessaly, the Peloponnesus, Corfu, and Naxos; of the Americans at Corinth; the English in Melos and in Thessaly; the French at Delos, Delphi, and Tegea; the Austrians in Elis; the Germans at Tiryns, the Argolid and Arcadia, Thebes and Amorgos, are described, with frequent reference to the fuller publications elsewhere. Of especial interest are the following: At Tanagra, the gravestone of Saugenes, who probably fell in the battle of Delium, 424 B.C.; part of a colossal statue of terra-cotta, at the temple of Demeter Chthonia at Hermione (Peloponnesus); the sanctuary of Apollo Parrhasius; architectural details, further fragments of the pediment sculptures, and the great altar of Athena Alea at Tegea; a fine bronze statuette of Peloponnesian character, early fifth century, from a sanctuary of Demeter near Tegea, where the temple was of brick or some other perishable material; a second marble temple built from the quarries of Doliana in the sixth century, a hundred years before marble was so used elsewhere in Greece; the reconstruction of the pedestal of the golden chariot of the Rhodians, with the inscription, and of a monument of a new type, erected by the daughter of Timolaus, at Delphi; new evidence for Minoan chro-

nology, at Phylakopi; at Pergamon, a correction of the genealogy of the Attalids; in Crete, at Hagia Triada, a street of houses and shops, a sort of agora, of the Late Minoan period; at Gortyna, the Roman round building in which the inscription of the Laws of Gortyna was found (see p. 123). Another summary is given by R. M. DAWKINS (*J.H.S.* XXXI, 1911, pp. 296-307).

ÆGINA AND THEBES. — **Mycenaean Graves.** — In 'Αρχ. 'Εφ. (formerly 'Εφ. 'Αρχ.), 1910, pp. 177-252 (7 pls.; 28 figs.), A. D. KERAMOPOULOS describes Mycenaean tombs excavated by him in Aegina (1904) and in Thebes (1905). Three chamber-tombs in the Brown vineyard in Aegina had been constructed by the excavation of softer material beneath an 0.80 m. layer of poros, and seem to have had a common *dromos*. In each were found remains of from ten to eighteen bodies, and 40 to 62 vases. Extra space was gained by burying some of the bodies in graves dug in the floor. Evidence of the use of wooden coffins was found. Ashes in some of the vases probably came from the family hearth, while sea-sand in others may be symbolic of the sailor's occupation. In exploring a rock-cut tomb at Thebes, the square inner chamber of which had been looted long before, a grave was found in the floor, containing skeletons, beads, arrow-heads, and pottery. The bodies had not been burned. Pottery of the best Mycenaean style, including the Palace Style of Cnossus, in conjunction with later styles, points to home manufacture under the influence of styles of different periods in Crete, and dates the tomb in the last part of the period known as late Aegean II, the time of the Palace of Cadmus (cf. 'Εφ. 'Αρχ. 1909, pp. 105 f.). The writer also reports on the discovery of an ancient aqueduct cut in the rock near the fountain of Dirce, a rock-cut tomb (?) of unusual plan near the river Dirce, two Roman graves near the railroad station, and a sacrificial pit with other traces of an ancient sanctuary (abandoned during the fifth century B.C.) between Thebes and Ampelosalesi.

AMBRACIA. — **Ex-voto to Artemis Pasikrata.** — In 'Αρχ. 'Εφ. (formerly 'Εφ. 'Αρχ.), 1910, pp. 397-398, S. N. DRAGOUMES publishes a letter from K. Katsanos of Arta, announcing the discovery there of a statue dedicated by a certain Nikandros to Artemis *Pasikrata*, a new epithet for this goddess.

ATHENS. — **Excavations in the Roman Market-Place.** — In Πρακτικά for 1910, pp. 112-126 (7 figs.), A. PHILADELPHUS describes his excavations in the so-called Roman market-place at Athens in 1910. The earth was removed to a depth of 4 to 4.50 m. over a space 29 m. long by 31 m. wide. Two houses, a flight of steps, a richly ornamented fountain, a reservoir, and two large Byzantine domed tombs were uncovered. A large number of Byzantine architectural fragments indicates that a church stood in this vicinity. Forty-five pieces of sculpture, including architectural sculptures, were found, none of great importance; and 30 inscriptions, chiefly sepulchral, of Roman date.

Excavations near the Church of the Holy Apostles. — In 1910 excavations were undertaken at the so-called Valerian wall near the church of the Holy Apostles, where Pittakis excavated in 1852. A marble head with hair arranged like that of the Apollo of the Omphalos, the left side of a bearded head of Roman date, and thirteen fragmentary inscriptions were found. (K. KOUROUNIOTES, Πρακτικά for 1910, pp. 136-143; 3 figs.)

Excavations at the Pnyx in 1910.—In *Πρακτικά* for 1910, pp. 127–136 (9 figs.), K. KOUROUNIOTES describes his excavations in the Pnyx in 1910. 10 m. inside the outer wall nine steps were excavated which seem to follow the general contour of the wall, showing that before the building was arranged in its final form there had been a similar but smaller structure on the site. No satisfactory evidence was found for dating the inner wall, but the character of the remains indicates a late date for the building. The writer, therefore, concludes that the idea that this was the Pnyx must be abandoned.

The Excavations in the Ceramicus.—In *Πρακτικά* for 1910, pp. 101–111 (3 figs.), A. BRUECKNER reports the discovery of the precinct of the *Tritopatris* behind the church of Hagia Triada (see *A.J.A.* XV, pp. 413 and 560). Two boundary stones, each inscribed in letters of the last part of the fifth century B.C., $\text{ΗΡΟΣ} \mid \text{ΤΡΙΤΟΠΑΤΡΕΩΝ} \mid \text{HABATON}$, were still in place. The precinct was shaped like a trapezium, with a road on each of the short sides. Where these roads met was another boundary stone upon which only the letters ATON remain; and perhaps a precinct of Hecate. A trench run from the sanctuary of the *Tritopatris* into the hill of Hagia Triada revealed quantities of geometric vase fragments and pre-Themistoclean tombs. Brueckner suggests that the precinct was the first stopping-place for the procession to Eleusis. Near the point where the two main roads met 44 ostraka were found, of which 11 have the name of Thucydides, son of Melesias; 26 the name of Cleippides, son of Deinias of Acharne; one that of Teisander, son of Epilyceus; and one of Eucharides, son of Euecharis. The names on the five others cannot be read. The torso of a seated boy of life size and several grave stelae and sculptures were discovered, including the stele of the daughter of Lysis of Aexone whom Plato represents conversing with Socrates.

Inscriptions on the Acropolis.—In 1910 certain foundation stones above the cave of Apollo, where Mr. Johnson had discovered inscribed slabs, were removed and ten inscriptions found. An archaic relief with Athena on both sides was also discovered. One of the figures had wings. The heads and feet are broken off. (A. N. SKIAS, *Πρακτικά* for 1910, p. 144.)

Acquisitions of Coins by the National Museum.—In *J. Int. Arch. Num.* XIII, 1911, pp. 37–112, I. N. SVORONOS and K. M. KONSTANTOPOULOS catalogue and describe 2928 Greek, Roman, Byzantine, and modern coins acquired by the National Museum at Athens between September 1, 1908, and August 31, 1909.

The Laws of 1910 relating to Archaeology.—The laws passed by the Greek government in 1910 relating to archaeology are printed in *Πρακτικά* for 1910, pp. 67–75.

BASSAE.—**The Earlier Sanctuary of Apollo.**—Excavations in 1902 and 1907 around the foundations of the famous temple at Bassae show that the earlier shrine was razed to make room for the new temple, but that the peculiar rear chamber of the cella of the latter cannot stand upon the exact site of the old structure, as has been assumed by some, although its purpose was doubtless to provide a suitable abode for the primitive statue. Among the finds were archaic terra-cotta antifixes of roof-tiles, decorated with painted reliefs, of the seventh century B.C., Protocorinthian vases, local imitations of Corinthian aryballi, Laconian (Cyrenaic) ware, minia-

ture votive vases, and vases in the form of animals. But far more numerous and interesting were the metal objects found—several of iron, a few of silver and lead, and many of bronze. The iron objects include the first known example of an archaic iron statuette, a votive aryballus of thin sheet-iron with incised decoration, and several spear-heads and other implements. Of bronze, the most important single piece is an archaic, nude statuette of Apollo, characteristically Arcadian in its rude workmanship. Very interesting is the large collection of votive objects of thin sheet-bronze (presumably manufactured on the spot by itinerant artisans), representing men, all kinds of defensive armor, often decorated with designs, spear-heads and arrow-heads, diadems, pins of various shapes, etc. There are also rings of silver and bronze, one with intaglio seal, and a carved ivory button. All this war-gear antedates the later temple, and while it bears testimony to the early worship of Apollo as a warlike god, it does not justify Kavvadias in assuming (*Congrès Internat.* I, 1905, pp. 178 f.) that Pausanias (VII, 41, 8) was wrong in saying that the new temple was erected to Apollo Epicurius in gratitude for deliverance from a pestilence. (K. KOUROUNIOTES, 'Ἀρχ. Ἐφ. (formerly, Ἐφ. Ἀρχ.), 1910, pp. 271–332; pl.; 56 figs.)

CHAERONEA. — Prehistoric Sites. — In *Πρακτικά* for 1910, pp. 159–167, G. SOTERIADES reports upon his excavations at several places near Chaeronea in 1910. Above were found Mycenaean vase fragments mixed with what Furtwängler called “Minyan” sherds, and others similar to the hand-made pre-Mycenaean sherds found in Aegina. Below these, mixed together, were such sherds as have been found on other prehistoric sites near Chaeronea. It is clear that in Phocis and in the vicinity of Chaeronea the neolithic period extended down to the Mycenaeans.

CHALCIS. — Excavations in 1910. — Excavations at Chalcis in 1910 brought to light a dedication to Isis, Sarapis, and Anubis; thirty-nine tombs dating from the second to the first century B.C. with the usual furnishings; and nine Mycenaean tombs from which about forty complete vases and many fragments were taken. There were also found in them necklaces of blue, white, and black glass beads; three gold beads shaped like olive stones with grooves on them; one in the shape of a bull's head; others of amethyst, rock crystal, agate, flint, etc.; five glass paste bucrania; a bronze spear-head, sword, knife, and chisel; three lead bracelets; three terra-cotta figurines of a goddess, etc. (G. A. ΠΑΠΑΒΑΣΙΛΕΙΟΥ, *Πρακτικά* for 1910, pp. 265–266.)

CRETE. — GORTYNA. — Recent Discoveries. — The Italian Archaeological Institute has made a number of important discoveries at Gortyna in recent years. A nymphaeum with colonnade and decorative sculpture has been uncovered; and it has been proved that the horseshoe-shaped building where the great law was carved was an odeum built in Roman times. It was constructed in part of stones from a round building of Hellenistic date, which in turn contained stones from a round building of the sixth century B.C. The purpose of these earlier buildings is not known. (*Kunstchr.* XXIII, October 13, 1911, col. 7.)

DELPHI. — Discoveries in 1910. — During the months of September, October, and November, 1910, H. POMTOW accompanied by several archaeologists made renewed studies of the monuments at Delphi. He now publishes the following results: The paved area before the entrance to the

temenos was the ancient agora. It was about 35 by 20 m. in extent and in Roman times was surrounded with colonnades and embellished with statues. He modifies slightly his arrangement of the statues of the Lysander monument; thinks that the Marathon offering may now be approximately reconstructed; modifies a little his ideas of the monuments of the Epigoni, the Septem, the Chariot of Amphiaraus, the Wooden Horse, and of Sostratus. (*Berl. Phil W.* December 9, 1911, cols. 1547-1550.) The inscription ΔΑΝ cannot refer to Poseidon as Homolle thought; but Δάν = Ζάν = Ζεύς. The letters Α Ρ Ι below it were part of the name of the town, not yet identified, which made the dedication. The upper slabs supposed to belong to the monument of the Aetolians were discovered bearing the names Δάνασσα, Ἀριστόνοα, and Δαμαίνα. He thinks that these are the names of the three daughters of Agemachus, the Naupactian, and that their statues stood here. The circular building, of which remains were found in the Treasury of the Sicyonians, was a round temple. The small rectangular structure which he formerly believed to be a portico to it he now thinks an independent building, and suggests that it was a very old treasury of the tyrant Cleisthenes. Reconstructions of both of these buildings are given. (*Ibid.* December 16, 1911, cols. 1578-1583; 2 figs.) He maintains his identification of the Treasuries of Siphnos and Cnidos against Homolle. The Liparaeans, he shows, had two monuments at Delphi. The inscribed slabs already known belonged to the upper monument; a small fragment with the letters ΑΡΑΙΟΙ, and below ΟΞ, belonged to the lower, which was situated close to the west side of the ramp near the Treasury of the Siphnians. The foundations previously supposed to belong to the monument of the Liparaeans supported the north wall of the Treasury of the Thebans, the largest of the treasuries at Delphi. (*Ibid.* December 23, 1911, cols. 1611-1615.) The walls formerly assigned to the Theban Treasury are now unidentified; but about half of the graffiti on the stones are Boeotian names, and it is suggested that there was an old Boeotian treasury at this spot, pulled down and rebuilt in the fourth century B.C. The arsenal, known from an inscription, is to be located near the west gate of the temenos. It was of sun-dried brick and consisted of one room 12.63 m. by 6.90 m. Excavation has finally settled the question of the date of the Treasury of the Athenians. It was erected in the time of Cleisthenes; while the offering from the spoil of Marathon near by was not connected with the original structure. The inscription of this latter monument is a renewal dating from the fourth century, but traces of the original inscription still exist. Additional details came to light about the Treasuries of Syracuse and Potidaea. (*Ibid.* December 30, 1911, cols. 1641-1647; fig.) The so-called "Hetaera" monument, upon which four female figures appear, is wrongly restored. Another small inscribed piece came between [Πυρρέ]χα and [Ἀσ]τομάχα, giving the name of a daughter of Diocles. Pomtow thinks it was a family monument dedicated by Lycus. The stoa of the Athenians may now be restored, as one of the capitals has been found. The exedrae numbered IV and V south of the threshing-floor are not *in situ*. (*Ibid.* January 6, 1912, cols. 28-30.) An inscription found in the vicinity nineteen years ago seems to show that the three bases south of the threshing-floor supported statues, probably of Apollo, Artemis, and Athena, dedicated by Philomelus, the Phocian, to commemorate his victory over the Thes-

salians in 355 B.C. Newly found pieces of entablature make possible the reconstruction of the Treasury of the Corinthians. The building contained some heavy offering (a golden lion?). The base of the statue of the Boeotian Heracles, erected by the Delphians in the third century, stood beside some wall or other offering, perhaps beside the Theban Heracles. A study of the dedications to Asclepius shows that his cult at Delphi was very old, about as old as that at Epidaurus. (*Ibid.* January 13, 1912, cols. 59-63.) The sanctuary of Asclepius lay where Keramopoulos thought, north of the Treasury of the Athenians. It was not a temple, but a precinct surrounded by a low brick wall standing on a stone base. A newly discovered piece of the inscription published by Homolle (*B.C.H.* XX, p. 720) shows that certain restorations were made about 135 A.D. The Aphroditium lay either northwest of the Bouleuterium, or north of the Treasury of the Massiliotes. There was a small temple of Eileithyia in the upper part of the temenos of Apollo, but its site cannot now be definitely located. (*Ibid.* January 20, 1912, cols. 91-95.) Perhaps it is to be connected with the double niche north of the "white house." Then the temple near the peribolos wall would be the temple of Aphrodite; and the so-called Poseidonium would be the sanctuary of the Dioscuri. The steps back of Exedra VI are to be identified with the place called Dolonia by Plutarch (*Def. Or.* 15). The name "Treasury of Clazomenae" given to the old foundation on the lower terrace may have to be changed, for the Treasury of the Cretans was very early. (*Ibid.* January 27, 1912, cols. 125-127.)

ERETRIA. — **The Temple of Apollo Daphnephoros.** — Excavations on the site of the temple of Apollo Daphnephoros at Eretria have brought to light several things dating from the end of the sixth century B.C., including a terra-cotta figurine of a man with a pointed beard, a small bronze of a man holding a small animal with both hands, and part of an archaic inscription with the words τῷ Ἡρακλεῖ. Many geometric vase fragments were also found, and a few unimportant pieces of the pediment sculptures. The temple was built about the middle of the fifth century to take the place of a temple destroyed by the Persians; and this in turn had succeeded a sanctuary of the geometric period. The small temple on the acropolis of Eretria was identified by an inscription and by a figurine as the temple of Demeter and Cora. North of the modern church a cemetery of the first century B.C. was discovered, but yielded nothing of importance. (K. Kourouniotes, *Πρακτικά* for 1910, pp. 267-269.)

GERAKI. — **Early Pottery.** — In *B.S.A.* XVI (session 1909-1910), pp. 72-75 (4 figs.), A. J. B. WACE discusses some early pottery found in 1905 at Geraki, in Laconia. There are four classes: (A) Monochrome, hand-made ware; gray biscuit, with well polished brown surface; (B) hand-made painted ware with *matt* black patterns on a pinkish biscuit; (C) wheel-made painted pottery with *matt* black patterns on a pinkish biscuit; (D) Local Mycenaean ware (?). One or two fragments are hard to classify.

LACONIA. — **Topography.** — In *B.S.A.* XVI (session of 1909-1910), pp. 62-70 (map), H. A. ORMEROD describes Bardounia and northeastern Maina, the hill-country on the eastern side of Taygetus, bounded on the north by the road from Sparta to Anavryte, on the south by Gytheion and Panitsa. In a note (pp. 70-71; fig.), a gem from Anogeia is discussed.

The engraving on it reproduces the type of the Persian king kneeling and shooting with his bow, which is familiar on Persian coins.

NAXOS. — **Pre-Mycenaean Tombs.** — Near **Kato Sangre**, Naxos, 170 pre-Mycenaean tombs were opened in 1910. They were placed close together in a space 100 m. long and from 12 to 25 m. wide, and were from 0.20 to 1.50 m. below the surface. About one hundred whole vases were found in them, chiefly pyxides decorated with slanting and vertical lines, and pear-shaped vases. There were also found some shallow marble vases, three early marble figurines, and a marble figure representing a man seated on a four-legged seat (head, feet, and legs of seat missing), and a few fragments of obsidian. The only object of metal was a headless bronze pin. Near **Rhizokastelia** were found many fragments of later vases and some of glass. (K. STEPHANOS, *Πρακτικά* for 1910, pp. 270-273.)

PIRAEUS. — **Excavations in 1910.** — During the year 1910 excavations were carried on at several sites in the Piraeus. Pieces of wall belonging to colonnades, and remains of an ancient aqueduct, or drain, were discovered in several places. There were also found: (1) a bearded head of Dionysus of good workmanship, 20 cm. high, of white marble, with the hair bound by a fillet decorated with ivy leaves; (2) a headless seated statuette of Cybele, with a lion on her knees, of good period, but somewhat broken on the right side; (3) a broken terra-cotta plaque 34 cm. by 22 cm., on which are the fore parts of two lions facing to the right. (I. C. DRAGATSES, *Πρακτικά* for 1910, pp. 145-151; 4 figs.)

SPARTA. — **Excavations in 1910.** — In *B.S.A.* XVI (session 1909-1910), pp. 1-61 are devoted to the British excavations at Sparta in 1910. R. M. DAWKINS first (pp. 1-3) gives a brief summary account of the excavations and their results. He then (pp. 4-11; 3 pls.; 5 figs.) describes the remains of a Mycenaean city discovered near the Menelaum. The city had been destroyed by fire. Its foundation was probably not very far back in the pre-historic period, for no very early objects were found. A series of vases, some stamped clay sealings for wine jars, and a curious female figure in terra-cotta were, apart from the walls of the houses, the most important things uncovered. Mr. Dawkins (pp. 12-14; fig.) describes a short excavation at Kalyvia tes Sochás, where the discovery of numerous lead figurines had been thought to disclose the site of an Eleusinium. No remains of the temple were found, but stamped tiles and an inscription (see below) proved that the temple had once existed at this site. The work in 1910 at the sanctuary of Artemis Orthia is described by Mr. Dawkins (pp. 15-17; 2 pls.; fig.). The limits of the site were more accurately determined, and a house, probably of the fifth century, was excavated. Two statue bases, bearing inscriptions which show that they once supported statues of *bomoniakai*, were found. The other objects discovered are of comparatively little interest. The excavation of this site is now finished, and Mr. Dawkins gives (pp. 18-53; 2 pls.; 18 figs.) a connected history of it from the establishment of the cult in the tenth century B.C., until the beginning of the Middle Ages. The cult was probably established when the Dorians came. The earliest altar dates from the ninth century, as does, apparently, the earliest temple. About 600 B.C. the sanctuary was reorganized, and a later temple and altar were built. The temple was rebuilt in the second century B.C. In the middle of the third century A.D. a theatre was built on the site, and

about the same time the Roman altar was built. These dates are all arrived at by the help of the pottery, figurines, inscriptions, etc. The inscriptions are published (pp. 54-61) by A. M. WOODWARD. The most interesting are those of the *bomonikai*. One of these is in archaistic language, the other in the *koine*, though both belong apparently to the latter part of the second century A.D. A fragmentary inscription from Kalyvia tes Sochás seems to refer to the procedure at a festival of Demeter and Cora. The six other inscriptions published are very fragmentary.

TEGEA.—**Excavations in 1910.**—In 1910 excavations were carried on at two places in Tegea, at the sanctuary near Hagia Soste, and at the temple of Athena Soteira and Poseidon. On the former site few remains of the building were discovered, but a crevice in the rock was full of offerings. The most interesting of these was a seated figure of a goddess holding fruit in each hand, of bronze. It is 10 cm. high, and dates from the beginning of the fifth century B.C. Many fragments of life-size terra-cottas were found, including four complete heads, two of which, dating from the fourth century B.C., are beautiful. About fifty complete figurines, thirty-five inscribed tiles, lamps, vases, etc., were among the objects found. They had been removed from the temple after the Christian era. The temple of Athena Soteira and Poseidon was a Doric building of the middle of the sixth century B.C., about 24 by 12 m. in extent. Some architectural fragments belonging to it were found. There had been an earlier temple on the same site, some fragments of which came to light; and a number of small bronze offerings (tridents, and about fifteen bracelets), dating from the seventh or sixth century, apparently belonged to it. Many badly broken fragments of pediment sculptures were found on the site, including a lion and part of a fish, perhaps Triton. (K. A. ΡΗΟΜΑΙΟΣ, *Πρακτικά* for 1910, pp. 274-276.)

THEBES.—**Recently Discovered Tombs.**—During the year 1910 sixteen Mycenaean tombs were excavated near Thebes, but little of importance was found in them. A few gold rings, gold coverings for buttons, a bronze knife, and numerous vase fragments of the periods known as Late Minoan II and III were discovered. Just within and without the doorway of one tomb were grooves as if for wheels. The excavator believes that the friends of the deceased left their offerings just within the entrance of the tombs, and that these were removed and replaced by others when later burials were made. Seven graves made of tiles, three of stone slabs, and three graves where cremated bodies were buried were also found, as was a large amphora in which a child had probably been buried. (A. D. ΚΕΡΑΜΟΠΟΥΛΛΟΣ, *Πρακτικά* for 1910, pp. 152-158.)

THESSALY.—**Excavations in 1910.**—In *Πρακτικά* for 1910, pp. 168-264 (24 figs.), A. S. ARVANITOPOULLOS describes his excavations carried on at many places in Thessaly in 1910. At *Iolcus* remains of a Byzantine church were resting upon ancient foundations, probably of a temple. A number of inscriptions were discovered near by. (*R. de Phil.* 1911, pp. 123 ff. and 282 ff.) Architectural fragments from several temples, one of which was as large as the Parthenon, were found on the acropolis of *Larissa*; while below were uncovered successive strata back to neolithic times. In the theatre a Byzantine church had been built; back of the stage buildings were remains of a large stoa, facing east. Near *Doursounades* seven small chamber tombs were opened. At *Pharsalia* parts of the ancient aqueduct were found,

besides a number of inscriptions, architectural fragments, a statuette of a nude youth of good workmanship, and a large relief. A beginning was made in the excavation of the Cave of the Nymphs on **Mount Ossa**, and vase fragments of the fifth and fourth century, bronze pins, and some figurines were found. Near **Chasambale**, ancient quarries, dating from the first century B.C. to the first century A.D., were discovered, and in them practically the same tools as are used by quarrymen in Greece to-day. There were important neolithic settlements here, and the site was occupied down to geometric times. Tombs, architectural fragments, and inscriptions were found at **Alephaka**, which was, perhaps, the ancient Atrax. At **Lasporchori**, the ancient Homolium, a colossal terra-cotta foot was found near the archaic temple on the acropolis (see *A.J.A.* XV, p. 422). It belonged to a statue, perhaps of Zeus, about 5 m. high. In the lower city some inscriptions were discovered and perhaps the theatre. A ruined Byzantine church at **Ambelike** rests upon the foundations of an ancient temple. Near the monastery *τῶν Κομνηνῶν* ancient as well as Byzantine remains came to light. Near **Tempe** a peculiar tomb or shrine was discovered, hewn out of the native rock, with the figure of a nude man lying on his back. In the vicinity of **Domoko** prehistoric settlements were found, and a number of Greek inscriptions. Many Byzantine and some ancient remains, including inscriptions, were found in various villages on **Mount Pelion**. At **Chortos** a great Byzantine church had been built above an ancient temple; and a short distance to the east was another smaller temple. Ancient tombs were found in the vicinity. In the plain near **Pherae**, prehistoric remains were discovered in several places, and in neighboring towns Byzantine remains and ancient inscriptions. At **Pagasae** the excavation of the second tower was completed and a dedicatory inscription to the Muses, a relief of the hero Enodius, the base of a column with an archaic inscription in five lines, and a considerable number of painted grave stelae, some exceptionally large, were found (see *A.J.A.* XV, p. 422). Some pieces of stelae, with the colors well preserved, were found in the tower which was first excavated. On the north side of the acropolis at **Gonnus** (see *A.J.A.* XV, p. 422) the walls are still standing to a height of 23 courses, or 6 m. These date from the sixth or fifth century B.C., while those in the lower city date from about 400 B.C. Other walls between the acropolis and the lower city are of Macedonian date. West of the acropolis are remains of a large building, perhaps the site of the agora, and further on a Roman or Byzantine structure. South of the acropolis are the foundations of a temple which inscriptions indicate was dedicated to Asclepius; and west of this another temple. In the same direction some poor tombs of the historic period were found, and further on, near the left bank of the Peneus, was the hill on which the prehistoric town was situated. This was surrounded by two rows of polygonal wall. Numerous geometric tombs and some of Mycenaean and neolithic date were found in the vicinity; also remains of rectangular houses, and vase fragments. On the highest point of the Acropolis, inside a Byzantine building, were the remains of an elliptical-shaped temple built of small stones carefully put together. It was open at the southwest end. Such buildings have been found at Thermon and elsewhere. Near by were many tiles inscribed ΓΟΝΝΕΩΝ. One hundred and twenty-eight inscriptions were found, including decrees of the city of Gonnus, and five dedications to

Athena Polias, to whom this temple was probably dedicated. It was erected in early times, and a pointed stone may have been the primitive idol. Parts of a figure of Athena, probably the cult statue, were also discovered. In *Revue de Philologie*, XXXV, 1911, pp. 123-139, 282-305 (2 figs.), A. S. ARVANTOPOULLOS publishes fifty new inscriptions from Thessaly, one of 133 lines, relating to the purchase of vines and of uncultivated land. In *B.S.A.* XVI (session 1909-1910), pp. 297 f., is a brief account of the excavations of Messrs. Wace and Thompson in central Thessaly (see *A.J.A.* XV, pp. 421 f.).

THISOA. — **Recent Discoveries.** — Excavations near Karkalu in Arcadia have led to the discovery of an interesting building of late Hellenistic date, which by two bronze inscriptions is shown to have been a *ἱερόν τῷ Μεγάλῳ Θεῷ*. The inhabitants of the town call themselves *Θισσαῖοι*. This settles the question of the site of Thisoa. Among other finds is mentioned a fine bronze statuette of a nude, bearded man with Corinthian helmet. (G. OIKONOMOS, *Berl. Phil. W.* XXXI, 1911, cols. 1206 f.)

ITALY

ARCHAEOLOGICAL DISCOVERIES IN 1910 AND 1911. — In *Arch. Anz.* 1911, cols. 158-192 (15 figs.), R. DELLBRUECK publishes a summary of the discoveries in Italy in 1910. The printed sources are indicated throughout. The following items may be noted: Ravenna as a centre for the spread of early Byzantine art and culture in Italy and western Europe; the connection of Ancona with Magna Graecia and Syracuse, as shown by the pottery and gold and silversmith's work in graves; the probability that a second Clusium existed on the site of Orbatello in Tuscany; a hut-urn found at Perugia which imitates a wattled structure; a fifth century origin for the church of S. Angelo at Perugia, with materials from a pagan temple; three heads found at Rome, one of Ptolemy III, Euergetes, valuable for its exact dating, a marble head of a negro child, and one of a child in the character of Horus; remains of the republican and imperial periods at Ostia, in walls, streets, and grave monuments; at Pompeii a painted miniature portrait covered with rock-crystal, and a grave monument of the type called *schola*, hitherto known only from Roman landscape paintings (a column standing on a high base and bearing an amphora); traces of the Oscan period at Pompeii and Teano, especially some brightly painted chamber-tombs at Teano with valuable contents in jewelry of native and Magna Grecian work; a prehistoric hut-floor near Bari, supposed by Mosso to be a sanctuary; dolmens in southeastern Italy; pre-Greek settlements in Sicily; a nuraghe in Sardinia that served as a temple in Punic and Roman times, the offerings beginning in the sixth century B.C. and going down to the fourth century A.D. In the *London Times*, January 4, 1912, pp. 3-4, T. ASHBY reports upon the more recent discoveries. In **Rome** the investigation of the house of Livia has been completed and a small cryptoporticus found leading northwards from it to the Forum. This is the probable site of the murder of Caligula. Further evidence for identifying the ivy-crowned podium at the southwest corner of the Palatine with the temple of Cybele came to light in the cistern below, in which many terra-cottas were found, including heads of Attis. The removal of the modern buildings from the Baths of Diocletian has

made the ruins much more imposing and better seen. On the Janiculum a large fish-pond belonging to the earliest sanctuary has been discovered. The small piece of the "Servian" wall removed from the central railroad station to the Museo delle Terme, in the opinion of Boni dates from the first century B.C. At **Ostia** much excavation has recently been done. The main road has been laid bare for about 500 m. It is 8 m. wide and flanked with porticos its entire length. Where it left the town the gate seems to have been decorated with the splendid winged female figure, a combination of Athena and Victory, found near by. This was the real Via Ostiensis. The most important quarter of the city is now uncovered. At **Genoa** tombs of a Ligurian necropolis have been found with pottery of the fifth and fourth centuries B.C.; and at **Ancona** two Picene tombs of the eighth century B.C. At **Terni**, in a pre-Roman necropolis, tombs going back to the eighth or seventh century B.C. were excavated. In Calabria, Orsi has discovered near **Monasterace** the site of Caulonia and the remains of a Greek temple. At **Olbia**, Sardinia, part of the city walls with a postern gate and towers were discovered. On the island of **Gozzo**, a Roman villa and a megalithic building with neolithic pottery were found.

ANCONA.—**Acquisition of Gallic Antiquities.**—The museum at Ancona has recently acquired a large collection of Gallic antiquities excavated at Montefortino from 1894 to 1896. The graves in the necropolis from which they came date from early in the fourth century to 295 B.C., and were especially rich in bronzes. Grave VIII, which was intact, contained, besides the skeleton, about one hundred funeral objects. About a dozen bronze vases of elegant shape, a bronze mirror with decoration incised, and in relief, a strigil, an ivory comb, bronze knives, scrapers, sieves, etc., were among the objects found. The terra-cottas were few and of little account; but the gold ornaments were important. They include a heavy collar 80 cm. long, and three funeral crowns of gold leaves with blue and green glass inlay. The collar is remarkable for its great size. (*Kunstchr.* July 7, 1911, pp. 506-507.)

FERENTO.—**The Excavation of the Roman Theatre.**—In *Boll. Arte*, V, 1911, pp. 213-226 (14 figs.), E. GALLI describes the excavations in the Roman theatre at Ferento, near Viterbo. About half of the cavea was uncovered and the ground plan made clear. The writer believes that the theatre was built in late republican or early imperial times, and later restored and embellished.

LICENZA.—**Horace's Sabine Villa.**—The Italian bureau of Fine Arts announces the discovery at Vigna di Corte, near Licenza, of walls, a mosaic pavement, a piscina 20 m. in length, a *frigidarium* and a *calidarium* belonging to a bath, and some other remains of the Sabine villa given by Maecenas to Horace. (*Chron. Arts*, 1911, p. 227; *R. Arch.* XVIII, 1911, p. 370.)

NAPLES.—**A New Aphrodite.**—The Naples museum has acquired a statue of Aphrodite in the bath recently found between Gaeta and Naples near the site of ancient Sinuessa. The head, both arms, and left breast are missing, but the figure is beautiful and shows Praxitelean influence. (*Kunstchr.* XXIII, October 13, 1911, col. 7.)

OSTIA.—**Recent Excavations.**—In *Mél. Arch. Hist.* XXXI, 1911, pp. 363-368, J. CARCOPINO contributes some additional notes on the most

recent excavations at Ostia, concerning the barracks of the *vigiles*, the situation of the sanctuary of Magna Mater, the docks, a possible so-called triumphal arch (*C.I.L.* XIV, 375), and perhaps a house of P. Lucilius Gamala.

ROME. — The Excavation of the Palace of Domitian. — In October, 1911, G. Boni began excavations in the palace of Domitian on the Palatine, with the object of learning the whole plan, which was that of an enlarged Roman house. Work on a row of rooms in front corresponding to the vestibule revealed a system of drainage and brought to light a large number of architectural fragments. In the atrium an octagonal basin was uncovered, sixty feet across and two and one-half feet deep, originally lined with marble. It had been broken through by previous excavators and early archaeological strata revealed. In the triclinium a marble pavement covering two hundred yards was found. The northern nymphaeum was already known, but the pipes which supplied it with water have just been discovered; the southern nymphaeum, partly covered by an abandoned nunnery, remains to be excavated. (*Nation*, December 7, 1911, p. 562.)

The Archaeological Park. — In *Athen*. October 7, 1911, p. 433, R. LANCIANI gives an account of the proposed archaeological park in Rome for which the Italian parliament has appropriated 6,500,000 lire. It will include "the whole of the Sacra Via from the Capitol to the Coliseum, the Imperial Fora, the Palace of the Caesars, the Baths of Titus and Trajan, the northern and western slopes of the Caelian, the eastern and southern slopes of the lesser Aventine, and the valley between these hills from the Circus Maximus to the three gates of the Aurelian Wall, the Metronia, the Latina, and the Appia." The main difficulty in laying out the park is the traffic. Two important lines which cannot be diverted meet at right angles by the Septizonium. These will be screened by trees and bushes and crossed by bridges or subways. The garden of the baths of Caracalla will be reconstructed, and arrangements have been made for excavating the site and removing the earth to the Decennia Palus.

Discoveries in the Baths of Caracalla. — R. Lanciani has discovered within the area of the baths of Caracalla the remains of a magnificent portico, where the bathers could take shelter from the summer sun and the winter rain and cold. In the Middle Ages this site was used as a Christian burial ground, for a number of tombs of that period have come to light. This is the first exploration made in the Zona Monumentale, or Archaeological Park, which extends from the Arch of Constantine to the Porte di S. Sebastiano and Latina. (*Nation*, January 11, 1912, p. 44.)

The Baths of Diocletian. — In *Boll. Arte*, V, 1911, pp. 347-361 (13 figs.), P. GUIDI and R. PARIBENI describe in detail the work of clearing the baths of Diocletian carried on in 1911.

The Bronze Tablet of Cn. Pompeius Strabo. — Another fragment of the important bronze tablet of Cn. Pompeius Strabo, the father of Pompey, dating from the siege of Asculum, 90 B.C. (*A.J.A.* XIII, pp. 362 f.), is published by G. GATTI in *B. Com. Rom.* XXXVIII, 1910, pp. 273-280; pl.). It is the upper right-hand corner, and practically complete, since the gaps are of no great importance, the inscription as published by the same scholar, *ibid.* XXXVI, 1908, pp. 169-226.

A Fragment of a Lex Horreorum. — The restoration of the ancient church of S. Saba on the Aventine has yielded a fragment (less than a third)

of an inscription relating to the *Horrea Ummidiana*, granaries belonging to some of the Ummidii, about the middle of the second century A.D. G. GATTI restores this *lex horreorum* in *B. Com. Rom.* XXXIX, 1911, pp. 120-128.

A Fragment of an Arval Inscription.—From a vineyard outside the Porta Portese another fragment of the Arval inscriptions has recently been recovered. It is published by O. MARUCCHI in *B. Com. Rom.* XXXIX, 1911, pp. 129-136 (pl.). This new fragment, now in the Vatican, dates from the year 239 A.D. in the reign of Gordian III. It is thus one of the latest in the Arval series.

A Tombstone from the Via delle Mura.—In the Via delle Mura, between Porta S. Lorenzo and Porta Maggiore, there has been found a tombstone set up by a mother, evidently a Syracusan, in memory of her twin daughters, Ortygia and Arethusa. G. GATTI, in *B. Com. Rom.* XXXIX, 1911, p. 210, understands the years and months appended (21 and 10, respectively) to refer to the mother; but the only plausible interpretation is that the twin daughters died within a short time of each other near the end of their twenty-second year.

A Copy of the Standing Discobolus.—Out of the fragments of sculpture recovered during excavations for a gas main in the Via Bocca della Verità L. MARIANI has restored in large part another copy of the athlete represented in a number of museums, but best known as the Standing Discobolus of the Vatican. (Sala della Biga, No. 615; Helbig, No. 331; see *B. Com. Rom.* XXXIX, 1911, pp. 97-119; 2 pls.; 7 figs.)

SPAIN

NUMANTIA.—**The Sixth Campaign.**—The report of the sixth campaign of excavation at Numantia (June-September, 1910), by A. SCHULTEN and C. KOENEN, is given in *Arch. Anz.* 1911, cols. 3-39. The work was devoted chiefly to the site at Renieblas, on the hill Gran Atalaya, three or four miles southeast of the city, where the camp made by Quintus Nobilior in 153 B.C. was identified in the previous year. Here instead of one Roman camp, six different but overlapping constructions were found and were sufficiently explored to be conjecturally assigned to their historical connections. The two oldest and smallest, the second of which was left unfinished, probably were made by Cato the Elder, in 195, when he marched to the Ebro from Segontia and back again, with an army of seven cohorts. Three much larger camps, made for two legions, the second of these also being unfinished, are to be assigned (1) to Nobilior, 153 B.C., and (2 and 3) probably to Pompeius, in the Sertorian War, 75 and 74 B.C. Another very hasty and imperfect structure may date from this same war. The latest of these camps is the largest Roman camp that is known, being four times the size of Carnuntum and two and one half times as large as Novaesium. In the camp of the year 153, the interior arrangements in all their details illustrate and are explained by Polybius's contemporary description of a two-legion Roman camp and show that Nissen and not Oxé has reconstructed the latter correctly. A hoard of 72 Roman silver coins of about 220 B.C. probably come from Cato's occupation. Other articles found are several well-preserved *pila* and a complete sword, with blade and tongue. A small conical hill near Gran Atalaya is artificial and may be the burial mound of the Roman soldiers who fell here

in 153. In the remains of Numantian houses on the hill of Saledilla, which were destroyed in 133 B.C., are sherds of geometric pottery which show how late this antiquated style, belonging to the seventh century in Greece, was continued in use among a backward people. These excavations are of great importance for the history of Roman wars in Spain and of Roman military matters in general. *Ibid.*, cols. 370-382, E. FABRICIUS criticises Schulten's article on the Roman camps at Renieblas and adds a fuller discussion of their relation to Appian. He points out that the encampments with stone barracks, etc., were *hibernacula*, and the "unfinished" camps were for temporary or summer use, when the soldiers lived "*sub pellibus*"; that Schulten's Camp II was not older than III, in which Nobilior spent the winter of 153-152 B.C., but an annex to it and for the use of auxiliaries, as were also the "*canabae*" on the southwest; that Camps IV and V are wrongly assigned to Pompey in the Sertorian War, and probably belong to the great siege of 134-133, the later being under Scipio's own charge, while the corresponding camp of his brother Maximus is still to be looked for on the west side of the city.

FRANCE

ARLES. — **Recent Discoveries.** — *B. Soc. Ant. Fr.* 1910, pp. 368-373, A. HÉRON DE VILLEFOSSE describes some recent discoveries in the court of the Musée Arlatan, Arles. A circular wall was cleared and found to belong to a splendid building, probably the temple of the Genius of the colony. On the inner side of the hemicycle are twelve niches for statues of divinities. A fine white marble Diana found in the ground had stood in one of them. The architecture of the building is careful and was the work of a certain Philiscus as the inscription *Philiscus.ma[r]rius.fecit* proves. Five other fragmentary Latin inscriptions were found.

BORDEAUX. — **A Spindle-shaped Phial.** — In *R. Ét. Anc.* XIII, 1911, pp. 331-336 (pl.; 2 figs.), P. COURTEAULT publishes a spindle-shaped glass phial, 44 cm. long, found in the ancient cemetery of Saint-Seurin, Bordeaux. It had a capacity of about 60 cubic centimetres and originally contained wine. No evidence of date was found.

CUISY-EN-ALMONT. — **Recent Discoveries.** — In *B. Soc. Ant. Fr.* 1911, pp. 170-174, O. VAUVILLÉ reports upon a recent discovery of L. Brune-hant at Cuisy-en-Almont (Aisne). A large number of worked stones placed in regular lines was found; also fragments of neolithic and Gallo-Roman pottery. The stones are undoubtedly prehistoric.

DORDOGNE. — **Palaeolithic Remains.** — In *Z. Ethn.* XLIII, 1911, pp. 308-310, O. HAUSER writes briefly of his palaeolithic excavations in the Dordogne and Vézère valleys. At **La Rochette** Acheuléen, Mousterien, and Aurignacien strata are now clearly to be seen. At **Laugerie** a vast boulder, that had chanced to roll down on a spot where primitive men were manufacturing their implements, has recently rolled farther down, laying bare flint and bone tools, animal remains, etc., crushed, to be sure, but just as they were thousands of years ago.

EYBENS. — **A Latin Inscription.** — In *B. Soc. Ant. Fr.* 1911, pp. 113-118, V. CHAPOT publishes a fragmentary Latin inscription built into the outer wall of the church of Eybens (Isère). It is an epitaph ending with the words *sub as[cia] dedicav[it]*. The writer discusses the significance

of the *ascia* and thinks it had a religious meaning which he cannot explain.

LES LONGUES-RAIES. — **Gallo-Roman Graves.** — In 1909 and 1910 excavations for the removal of gravel south of the Gallo-Roman cemetery at Les Longues-Raies brought to light a large number of inhumation burials, with lustrous red terra-cotta vases, glass vases of different shapes, Roman coins, and various objects of metal and of bone. One glass vase has an opening on the side and a handle, and decorations in relief in blue glass on the outside. The burials seem to date from the first two centuries A.D. (O. VAUVILLÉ, *B. Soc. Ant. Fr.* 1910, pp. 348-351.)

MERVILLE. — **Three Bronze Statues.** — In *C. R. Acad. Insc.* 1911, pp. 375-379 (3 figs.), F. DE MÉLY calls attention to three bronze statues recently found in dredging the Lys at Merville and now in the museum at Lille. They are a Mercury 0.50 m. high holding a purse; a Mars 0.60 m. high with both arms missing; and a Jupiter from which the head, arms, and left leg are gone. The Mercury was originally covered with silver. The figures probably date from the second century A.D.

MONT AUXOIS. — **Excavations in 1911.** — In *C. R. Acad. Insc.* 1911, pp. 534-542 (4 figs.), A. HÉRON DE VILLEFOSSE reports upon the excavations on Mont Auxois in 1911. A few metres from the west apse of the temple of Moritasgus were found remains of a small building in which was a large spout like a gargoyle through which the water of the aqueduct already known passed. Farther west a small rectangular building was uncovered and remains of a road; also numerous bronze votive objects, especially eyes, and a few in stone. A beardless head of Mercury was the best piece of sculpture found; but a relief of a god and goddess seated on a bench deserves mention. Several other copies of it are known.

NÎMES. — **The Congress of Prehistoric Archaeologists.** — In *B. Mus. Brux.* X, 1911, pp. 73-78 (2 figs.), A. L. gives an account of the seventh *Congrès préhistorique de France* held at Nîmes, August 6 to 12, 1911, and adds brief summaries of the papers read.

PARIS. — **Acquisitions of the Louvre in 1910.** — In *B. Soc. Ant. Fr.* 1910, pp. 407-416, A. HÉRON DE VILLEFOSSE and E. MICHON describe the acquisitions of Greek and Roman antiquities by the Louvre in 1910. The more important are: (1) an archaic Apollo from Paros (*Ath. Mitt.* 1902, pp. 230 ff.); (2) an archaic male head from Athens; (3) a statuette of a seated woman from Chalcis; (4) a marble group from Thrace representing a beardless horseman, wearing a chlamys, galoping along and holding by its hind legs a doe which two dogs are biting; (5) a beardless Roman head; (6) piece of an archaic bas-relief with a beardless head, from Locris; (7) a large stele with five figures, from Athens; (8) a stele with the figure of a runner holding a flaming torch in his right hand and leaning with his left on a staff, from Thasos; (9) a grave stele from Thasos with a standing male figure facing whom is a slave; (10) two grave stelae from Antioch; (11) a bronze figure of a girl standing and holding her dress with her left hand, from Athens; (12) a bronze disk from Egypt with the bearded head of a god on it; (13) a nude bronze Horus standing with cornucopia in left arm and right forefinger on his lips; (14) a bronze Horus seated on a sphinx; (15) a rectangular bronze plaque ornamented with scenes from the chase; (16) two late silver cups; (17) a round glass tessera with the draped bust of a man and the legend ἐπι

Θεοδότου ἐπάρχου; (18) eight vase fragments with Latin inscriptions mentioning places in Numidia; (19) two vase fragments with accounts in sesterces written in Latin.

RHEIMS. — **A Colossal Head of Mercury.** — In *B. Soc. Ant. Fr.* 1910, pp. 398-399, L. DEMAISON describes a colossal head of mercury 0.60 m. high recently found at Rheims. It is beardless, with traces of a wing on the right side above the hair. It is of rude workmanship, but was intended to be seen from below and may have been placed in a pediment.

VAISON. — **A Statuette of Venus.** — In *B. Soc. Ant. Fr.* 1910, pp. 356-357, A. HÉRON DE VILLEFOSSE records the finding of a statuette of Venus 48 cm. high at Vaison in 1909. The upper part of the body is nude, but drapery covers the lower limbs. The goddess holds fast to a shield attached to a slab beside her. The head, right arm, and feet are broken away, and the whole has been much injured by dampness.

BELGIUM

BRUSSELS. — **Acquisitions of the Royal Museums.** — In *B. Mus. Brux.* X, 1911, pp. 59-61 (2 figs.), J. DE MÖR publishes two pieces of Greek sculpture recently acquired by the Royal Museums, Brussels. One is a fragment of an Attic grave stele of the fourth century, consisting of the upper part of a seated female figure grasping the hand of another figure, now lost. The second is a small marble head, probably from a grave stele of the end of the fifth century B.C.

SWITZERLAND

DISCOVERIES IN SWITZERLAND. — A summary of archaeological discoveries in Switzerland in 1910, with references to the *Anzeiger für Schweiz. Altertumskunde* and other publications, by O. SCHULTHESS, appears in *Arch. Anz.* 1911, cols. 309-340 (7 figs.). A fuller treatment is given to Avenches and Ursins (Canton Vaud), Berne, Windisch (Aargau) and Irgenhausen (Zürich). On the hill Bois de Châtel, **Avenches**, a fortification of the third century seems to be built of stones brought from Aventicum after it had been burnt by the Alemanni in 265. The Roman portions of the cathedral of **Ursins** perhaps belong to a temple of Mercury, as is suggested by fragments of inscriptions. The museum of Berne has received a glass bead from a grave of the late La Tène period, bearing an incised inscription which has not been deciphered; also a Roman bronze statuette and a terra-cotta figure of a horseman in Gallic costume which was found with remains of many other civilizations in a cave on Mount Carmel in Palestine and probably represents one of the Gauls in the service of the Seleucidæ. At **Windisch** it appears, that although the stone buildings and walls of Roman Vindonissa are of the first century, there was an earlier construction of earth and timber, while two huge trenches or moats which were filled up by the Romans indicate the situation of the Celtic town. A tower in the eastern part of the first-century wall contains a postern gate of a kind that has been supposed to belong to the time of Diocletian. In the amphitheatre are traces of an earlier wooden building. The camp at **Irgenhausen** was built in 294-296 on an extensive estate with a large mansion of some pretensions to luxury.

AVENCHES. — **An Ancient Samovar.** — A remarkable find, the only such known north of the Alps, is an ancient bronze samovar or vase for keep-

ing water hot, now in the museum at Avenches, Switzerland. The hot coals were put into a cylinder which runs through the body of the vessel, and receives air from below. A charming figure of Eros or Dionysus adorns the cover. The name of such vases is uncertain, but *caldaria* (fem.) seems more likely than *caldarium*. (*Arch. Anz.* 1911, cols. 311-313; fig.)

GERMANY

BERLIN.—**A Dedicatory Offering from the Theban Necropolis.**—In *Ber. Kunsts.* XXXIII, 1911, cols. 15-20 (2 figs.), A. ERMAN publishes two objects recently acquired by the Berlin museum from the necropolis at Thebes. One is a stela of the thirteenth century B.C., upon which Amon is represented seated before his temple, and Neb-re, "painter of Amon in the necropolis," and his four sons praying to him. An accompanying text exalts the power of the god and tells of the cure of one of the sons through his aid. Five other stelae dedicated by Neb-re are still in existence. The second object is a wooden figure of Nefret-ari dedicated by Pai, father of Neb-re.

An Archaic Relief.—In *Ber. Kunsts.* XXXII, 1911, cols. 240-242 (2 figs.), B. SCHRÖDER describes a much injured Greek relief recently acquired by the Berlin museum representing Victory about to slay a bull. It dates from the second half of the sixth century B.C. The lower part of the face, the left shoulder, and arm of the Victory, and the greater part of the head, throat, and chest of the bull are alone preserved.

An Inscribed Helmet of King Monounius.—In *Ber. Kunsts.* XXXIII, 1911, cols. 20-21 (2 figs.), T. WIEGAND publishes a bronze helmet found on the Sea of Ochrida and now in the Berlin museum. It has protection for the neck, cheek-pieces, and a crest, and resembles somewhat a Phrygian cap. On the neck in letters made by dots is the inscription ΒΑΣΙΛΕΥΣ—ΜΟΝΟΥΝΙΟΥ. Monounius, king of Illyria, lived in the first part of the third century B.C. The helmet was probably not worn by the king, but by one of his men, as the figure N on the front seems to indicate.

BURGWEINTING.—**A Terra-cotta Tower.**—In *Röm.-Germ. Kb.* IV, 1911, pp. 89 f., G. STEINMETZ publishes a fragment of a terra-cotta lantern in the form of a tower, found in Burgweinting (near Regensburg), which, like similar objects found in the Danube provinces, seems to have been connected with the cult of the dead. The fragment is 30 cm. long, and seems to date from the latter half of the third century A.D. (See p. 138.)

COLOGNE.—**Recent Finds.**—In *Röm.-Germ. Kb.* IV, 1911, pp. 70 f., J. POPPELREUTER reports the finding of a round decorated glass bowl and a marble head of a statue of more than life-size, probably of the elder Drusus.

HERMESKEIL.—**A Roman Cemetery.**—A Roman cemetery containing ten rectangular graves was recently excavated near Hermeskeil. It dates from the second part of the second century A.D., and seems to have belonged to a private family. The finds include a number of two-handled glass vessels in excellent state of preservation, since they had been covered by large dolia or amphorae. (E. KRÜGER, *Röm.-Germ. Kb.* IV, 1911, pp. 81-87.)

HILDESHEIM.—**A New Museum.**—Mr. Pelizaeus, a native of Hildesheim engaged in business at Cairo, has presented to his native place his collection of Egyptian and Graeco-Roman antiquities, which includes a series

of moulds for silverware and armor (found at Mitrahine, near Memphis); a bronze head of Ramses II (life-size); a bronze statuette of the god Reshep incrustured with gold; twelve painted statues of the Old Kingdom, found at Gizeh; two Panathenaic amphorae; numerous stelae, glass objects, terra-cottas, etc. (S. R., *R. Arch.* XVIII, 1911, p. 368.)

LANGENBERGHEIM. — **La Tène Graves.** — In *Röm.-Germ. Kb.* IV, 1911, pp. 72 f., HELMKE reports the finding of two La Tène graves in Langenbergheim (Hessen).

LEIHGESTERN. — **Merovingian Graves.** — Recent excavations near Leihgestern (Kr. Giessen) have brought to light ten graves of the Merovingian period. The interesting furnishings include, besides pottery, necklaces, pendants, a comb, belt clasp, swords, daggers, and other objects. (*Röm.-Germ. Kb.* IV, 1911, pp. 54-59.)

MAINZ. — **Legionary Stamps.** — A collection of legionary stamps was recently found in Mainz. There were twenty-seven pieces of twelve different types, one of which was new, nearly all of the twenty-second legion. (*Röm.-Germ. Kb.* IV, 1911, pp. 65-67.)

Roman Sculptures and Inscriptions. — In *Röm.-Germ. Kb.* IV, 1911, pp. 67-69, KÖRBER publishes miscellaneous finds in and near Mainz, among them several "Viergöttersteine," a seated Jupiter, altars, and tombstones.

NIEDERBIEBER. — **Votive Inscription to the Genius Capsariorum.** — A small altarstone was recently discovered near Niederbieber, dedicated to the Genius Capsariorum. The dedicator calls himself "*medicus hordinarius*" and was evidently the head of the *Collegium Capsariorum*. We may, therefore, regard it as proved that the *capsarii* were of military rank, serving in the hospital as assistants, as had been suggested by A. v. Domaszewski. (*J. KLINKENBERG, Röm.-Germ. Kb.* IV, 1911, pp. 69 f.)

XANTEN. — **Further Excavations of Vetera.** — In *Röm.-Germ. Kb.* IV, 1911, pp. 49-51, H. LEHNER reports on the excavations on the site of the Roman camp of Vetera on the Fürstenberg. The eastern sides of the Augustan camps could not be located and no trace was found of the eastern gate of the Claudian-Neronian camp. The praetorium seems to have been 90 m. long and rested on massive concrete foundation walls. *Ibid.* p. 74, the discovery of an early Roman pottery is reported.

AUSTRIA-HUNGARY

DISCOVERIES IN HUNGARY. — A list of recent (1910) archaeological publications and discoveries in Hungary, with some details is given by G. v. FINÁLY in *Arch. Anz.* 1911, cols. 340-349. Near **Intercisa-Dunapentele**, beneath the foundations of a building dated by coins from Alexander Severus to Valentinian I, are foundations of an older house with remains of two or three friezes of stucco relief in Graeco-Roman designs. Remains of tiles indicate that **Bács** and **Kalocsa** were founded by the Hungarians on the sites of Roman fortifications. The so-called Dacian fortress, overgrown with ancient forests, on the steep heights **Gredistyer Csetáttye**, which has been known since 1803, has been revisited, together with a number of smaller forts in the neighborhood, parts of a related system of defence. They all have on the blocks of masonry peculiar flutings or ribbings, unlike anything in Greek or Roman architecture. More of the German graves of

the third and fourth centuries at **Szentes** have been opened and some curious ornaments found. A study of Pannonian costume made from gravestones shows two or three of the women's garments that are peculiar to this nation. An example of the so-called Suevian hair-knot is found in a bronze bust of a bearded man. A curious ribbed vessel was found, which was made by lining a mould with a continuous spiral coil of a thin band or stem of clay.

BEOČIN. — **A Roman Terminal Cippus.** — In *Röm.-Germ. Kb.* IV, 1911, p. 75, A. v. DOMASZEWSKI discusses a terminal cippus found near Beočin, southeastern Pannonia. The inscription on the front side begins AGE, the reverse has CAE, which he interprets respectively *ag(er) e(xceptus)* and *c(aput) a(gri) e(xcepti)*. The *ager exceptus* was exempt from paying the ordinary tributes.

CSÓMAFÁJA. — **Roman Altars.** — In *Dolgozatok az Erdélyi Nemzeti Múzeum érem- és régiségtárából*, II, 1911, pp. 260-274 (7 figs.), A. BUDAY publishes six altars with Latin inscriptions found at Csómafája, Hungary, in March, 1911. They were dedicated by Roman soldiers. He also publishes a similar monument found at Szentkirály.

DUNAPENTELE. — **A Terra-cotta Tower.** — Another terra-cotta tower has been unearthed, this time at Dunapentele, on the Danube. It is circular in shape, with the two upper stories formed by eight niches jutting out beyond the foundation. There are two openings in each niche, but one; in the roof are four irregularly cut triangular openings. The true function of these terra-cotta towers, as *Lichthäuschen*, or lanterns, has been fully explained by G. Loescheke (*Bonn. Jb.* 118, 1910, pp. 370 ff.). (MARGARETE LÁNG, *Röm.-Germ. Kb.* IV, 1911, pp. 51 ff.)

POLA. — **Recent Discoveries.** — In *Jh. Oest. Arch.* I. XIV, 1911, Beiblatt, cols. 5-44 (46 figs.), A. GNIRS reports upon the recent excavations in Pola and the vicinity. Remains of a propylaeum to the ancient citadel were found, dating from early imperial times. In the Via Castropola a Roman house was found to have well-preserved mosaics and some simple wall paintings. Unimportant fragments of architecture, sculpture, and inscriptions were brought to light. Other fragments were found in the theatre. At **Fasana** a further examination of the pottery found in 1909 (*A.J.A.* XV, p. 107) revealed other vase fragments inscribed with the potter's name. Remains of grave monuments were discovered at **Val di Sudiga** and at **Savolago**.

SOUTHEASTERN HUNGARY. — **Neolithic Settlements.** — In *Dolgozatok az Erdélyi Nemzeti Múzeum érem- és régiségtárából*, II, 1911, pp. 175-259 (95 figs.), F. LÁSZLÓ describes remains of the end of the neolithic period found in southeastern Hungary. The sites fall into four groups. Numerous remains of polychrome pottery, which resembles the pre-Mycenaean pottery of Greece, were found.

RUSSIA

ARCHAEOLOGY IN RUSSIA IN 1910. — The year was rich in finds of gold and other examples of ancient handicrafts. In **Transcaucasia**, in the Government of Erivan, a fine Roman temple of the time of Hadrian, previously discovered, was excavated. In the mountains, a row of colossal stone fishes was found set upright in the ground, perhaps the fetiches of

some primitive inhabitants. From **Tuapse**, Government of Chernomorsk, came a twisted neck-ring and a beautifully wrought crescent-shaped neck ornament, together with sixty gold coins of Lysimachus. In the village of **Kasinskoi**, Government of Stavropol, northern Caucasus, were found a number of massive gold ornaments, probably Hellenistic, which weigh 16 kgm. They comprise eleven richly ornamented neck-rings or collars, five spiral armlets, and three bell-shaped objects of which the use is not certain. On the peninsula of **Taman**, near the Straits of Yenicalé, a grave was opened which contained, with the remains of a burnt body, a gold coin of Alexander the Great and some Hellenistic pottery, such as is usually assigned to the second century B.C., besides gold neck and finger rings, brooches, a chain, earrings, crowns, beads, and pendants. In a tumulus on the site of ancient **Tanaïs** were found a beautiful gold-plated sword with richly ornamented scabbard, the remains of iron weapons and armor, and a red-figured Attic lecythus with a picture of a bird. The most important excavations were, naturally, on the sites of **Panticapaeum** (Kertch) and Olbia. From the necropolis of the former came the following, among other articles: three glass vases, one a unique piece of green glass covered with a vine in various harmonious colors; a coin of Mithradates Eupator and other objects of the first century B.C.; three beautiful gold crowns with leaves fastened to ornamented bands, one of them dated by a coin of Rhescuporis, 262-275 A.D.; finger rings and earrings, a cameo medallion, and a number of carved and engraved gems, one of the latter being set in an iron ring; terra-cottas; some well-preserved objects of wood; Attic vases of black-figured and late fine styles; Roman lamps with relief designs. A bronze lyre-box in the form of a tortoise-shell with a number of string keys of bone, some gold ornaments and a silver coin of the archon Hygiaenon, an "Ionian" amphora and an oenochoe with pictures of sphinxes, and a fish plate with three lifelike fish and a nautilus painted on it, also came from Kertch. The ruins of an ancient fortified town on the headland of Chersonese, near Sebastopol, date from the third and second centuries B.C., and are thought to be the Old Chersonese mentioned by Strabo, VII, 308. At **Olbia**, the peristyle house discovered in 1909 was further excavated with the adjoining streets and a system of drainage channels. The house was burnt down at the time of the invasion of the Getae in the first century B.C., and rebuilt soon after, contrary to the statement of Dion, in a rude, barbarian fashion, but parts of the fine masonry and a mosaic floor in a room apparently used as a chapel survived, the latter in a much damaged state. Six construction periods are traced on this site, one earlier and three later than those of this house. The ground being naturally swampy, the first buildings were built over a foundation of alternate layers of ashes and earth, as elsewhere in this neighborhood. The walls and towers of the second city (fifth from the top) have been uncovered. The necropolis yielded some ornaments of gold and electrum, a glass "Phoenician" alabastron, archaic Ionian vases and bronze articles, Attic vases, including a tall amphora with figures painted in white and incised on a black glaze, of the second century B.C., and a gold stater of Philip II. Other archaic Ionian vases were found in the island of **Berezani**, and in **Nimirow**, Government of Podolsk, remains of the earliest Copper Age and articles corresponding to the Hallstatt and La Tène civilizations. In **Ai-Todor**, the estate of Archduke Alexander Michailowich, in the Crimea,

a Roman fortress, probably Charax, has been excavated. With its baths, fountain house, temples, both inside and outside the fortifications, dedications, etc., it gives a clear picture of the daily life of a garrison on the outskirts of the Roman world, in the midst of a native population. (B. W. PHARMAKOWSKY, *Arch. Anz.* 1911, cols. 192-238; 43 figs.)

GREAT BRITAIN

DISCOVERIES, 1909-1911.—Discoveries in England, Scotland, and Wales in 1909-1911 are reported by F. J. HAVERFIELD in *Arch. Anz.* 1911, cols. 288-308 (12 figs.). He deplores the lack of systematic and persevering work on the many projects that have presented themselves for excavation, or study of the finds, and the consequent scantiness of valuable results. Something has been done to elucidate the movements of Agricola and the relation of his garrison posts between Clyde and Forth with the wall of Hadrian; the history of Corbridge, on the Tyne, which ceased to be a military station on the death of Severus; the structure of the forts along Hadrian's wall, especially at Halton and Gilsland, which were abandoned about 320-330 A.D. Farther south, at Elslack, a small square fort and a larger one of stone built later on the same spot have been found. From what has been done in Wales, it is concluded that the Romans held this as an integral part of their British province, building there a number of camps in the first century, most of which they abandoned in the second because of troubles farther north, though Carnarvon was occupied into the third, and Cardiff rebuilt in the fourth century. As to Roman civilian settlements, an examination of the moat at Silchester indicates that the stone fortifications date from late imperial times; Caerwent, which is of Flavian origin, shows the same mixture as Silchester, of native country houses crowded into a town of Roman plan and with Roman public buildings.

CAERWENT.—Excavations in 1909 and 1910.—In *Archaeologia*, LXII, 1911, pp. 405-445 (4 pls.; 22 figs.; 4 plans), T. ASHBY, A. E. HUDD, and F. KING describe in detail the excavations at Caerwent in 1909 and 1910. Houses VIII N, and XXII N to XXV N; also XIV S to XXIII S, and part of XXIV S were thoroughly explored. Roman coins, potsherds, and an altar dedicated to *Marti Ocelo* were discovered, but nothing of great importance. An illustration of a carpenter's plane found in 1903 is given. The streets in the northern part of the site were narrow and irregular, while the road near the houses excavated in the southern part was 17 ft. 6 in. wide. The city was divided into twenty *insulae*. *Ibid.* pp. 444-448, A. H. LYELL adds appendices on the insect and vegetable remains, the former numbering about fifty varieties.

CORBRIDGE.—Excavations in 1910.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 478-489 (pl.; 4 figs.; 2 plans), F. J. HAVERFIELD reports upon the excavations at Corbridge in 1910. The building called the "forum" has been cleared. It is an open court 170 ft. square, enclosed by a continuous row of buildings 25 ft. wide, with an entrance in the middle of the south side. Most of the rooms opened upon the court, within which there are also remains of walls of different dates. Bossed masonry was used on inner and outer walls and in partition walls. The whole structure was occupied in the middle of the second century A.D., destroyed fifty years later, then reoccu-

pied in part until the middle of the fourth century, and again towards the end of the fourth century. The writer believes that it was not a forum, but a storehouse, similar to one at Carnuntum. East of the storehouse were unimportant house walls and two ditches. Many coins, brooches, and potsherds, a piece of scale armor, ten lead bullets for slings and an altar dedicated to *Iovi aeterno Dolicheno et caelesti Brigantiae et Saluti* were also found. In *Athen*, September 9, 1911, p. 305, it is announced that on September 4 a find of 159 Roman coins ranging in date from Nero to Marcus Aurelius was made at Corbridge. Another discovery was the tombstone of a Palmyrene soldier who had died there at the age of sixty-eight.

KETTERING. — **Romano-British Remains.** — In *Proc. Soc. Ant. XXIII*, 1911, pp. 493-500 (pl.; 5 figs.), F. W. BULL describes recent discoveries at Kettering. The place has been known as a Romano-British site for many years; but the erection of a number of houses has recently led to a number of finds. These include great quantities of Samian potsherds, with some unbroken vases, pottery masks, coins, brooches, a small bronze head, perhaps a Minerva, the head of a staff consisting of a socket surmounted with an eagle's head, a few rings, some iron tools, and a few fragments of urns of the Bronze Age.

SUSSEX. — **Recent Discoveries.** — In *Proc. Soc. Ant. XXIII*, 1911, pp. 371-384 (4 figs.), R. G. RICE records the discovery at several places in Sussex of a few palaeolithic and a considerable number of neolithic implements; at **Elsted** four bronze axes of the Bronze Age; and at **Pulborough** an urn which may date from the same period. In the latter town there were also uncovered Romano-British foundation walls 708 ft. long and 9 in. to 1 ft. thick, which may have belonged to a stockyard. Other discoveries of the same period were made at **West Dean Park**, near Chichester.

AFRICA

ARCHAEOLOGY IN AFRICA IN 1910. — A summary of recent archaeological work in Tunisia and Algeria, made by A. SCHULTEN from personal observation, unpublished notes, maps, and other printed sources, with full references, appears in *Arch. Anz.* 1911, cols. 242-279 (11 figs.; 7 plans). Everywhere he has to deplore the destruction of ancient remains by Arabs or French colonists, unchecked by the authorities. At **Carthage** modern enterprise has obliterated the Phoenician city and threatens the Roman part with a similar fate. The identification of the two lagoons here with the commercial and war harbors of Carthage, and the Admiralty island is no longer questioned. The remains of the Admiralty building and the Ionic portico mentioned by Appian are also certain. The catalogue of the Bardo Museum is finished, the last volume embracing the engraved gems, Phoenician enamels, scarabs, amulets, and ivories. The Libyan mausoleum at **Thugga**, a mixture of Egyptian and Greek architecture, topped by a pyramid in the style copied by the Roman monuments of the province, has been restored (see *A.J.A.* XV, p. 579). A two-story house with peristyle, chambers with mosaic pavements, and a shrine of Apollo below the level of the street is of the best Roman period. Near the town of **Akuda**, 6 km. northwest of Hadrumetum, is a necropolis with graves of both Phoenicians and Romans. The bodies are in wooden coffins set on stone benches. At

El Jem the Roman theatre has been cleared and found to have chambers under the arena. The three restored temples at **Sbeitla** (Sufetula) are an imposing and beautiful sight. The adjoining forum has been cleared and a basilica found, among the mosaics of which is a portrait of Xenophon, *Autor Xenofonta*. An inscription "*Eunuco[s]*" found in the theatre at **Khamissa** (Thubursicum Numidarum) shows that Terence was played here. Two railroads built for the transport of phosphates to the coast give access to ancient **Capsa**, with its warm baths still used, as in Roman times, and to the most interesting of the ruined cities of southern Tunisia, Sufetula, Cillium, and Thelepte. At **Thelepte** are seen the quarries from which the city was built, the baths, and the area of the city itself, with streets and houses, the stone pillars which made the framework for the walls of rough quarry-stone, still to a large extent standing. Very little work would here restore to sight an entire city superior to Timgad in size and interest. The little emporium of **Gigthis**, on the Lesser Syrtis, is in marked contrast to the stretches of desert through which it must be reached overland. The use of white stucco is here noticeable. Four more boundary stones of Vespasian's demarcation between Old and New Africa have been found, and the greater part of the line may now be traced or conjectured. At **Sicca** the theatre and amphitheatre have been destroyed by Arabs and colonists. New inscriptions verify the sites of **Sutunurca** and **Thisica**. The terra-cotta statues of gods found at the religious centre of **Siagu** are now in the Bardo Museum. They include the lion-headed Genius Terrae Africae, the Mother-goddess Nutrix, Atargatis riding on a lion, etc., — a pantheon of Egyptian, Oriental, and Greek divinities illustrating the religious hospitality of the Africans. The mosaics of the Proconsularis, edited by P. Gauckler for the Académie des Inscriptions, number 1056, — 300 being from Carthage, over 100 from Hadrumetum, and 100 from Uthina. At **Timgad**, the existing city wall, a roughly constructed defence against the Berbers put up not earlier than the fourth century A.D., follows in many parts the line of Trajan's fortifications, but on the southwest it must have taken in an extension of the limits, for the space of the intervallum and the old wall itself is usurped by some large houses. The wall is of the usual African sort, stone pillars strengthening a structure of broken stone, after the manner of the northern timber-and-plaster building. The original size of the colonists' houses here was 10 m. × 20 m., two to an insula, while at **Thubursicum** they were twice as large, 20 m. × 20 m., still two in an insula. The theatre at the latter place (Khamissa) has been cleared. Through the greater part of its height, the auditorium has the semicircles of seats unbroken by any aisles. In the great camp at **Lambaesis**, the praetorium has been restored and further details of the plan of barracks and officers' quarters are being learned. Two baths have been excavated at **Madaurus**, and an inscription from there shows the phrase *cella soliaris* used like *solarium*, of the basin of the calidarium. A mosaic found at **Cuicul** between Caesarea and Sétif shows merry-making scenes at the seashore, an excellent example of African genre mosaic. At **Caesarea** a new replica of the Apollo of the Tiber (with the tripod) has been found. Some stelae with representations of Libyan mounted soldiers and Libyan inscriptions have been published. A hoard of 1500 silver denarii of Juba, buried in 17 A.D., was found at **Larash**, Morocco.

Latin Inscriptions from Tunis. — In *B. Soc. Ant. Fr.* 1910, pp. 401-406, L. CHATELAIN publishes sixteen Latin inscriptions from Mactar, Kef, and Djama, Tunis.

BÉJA. — A Bronze Cylinder. — In *B. Soc. Ant. Fr.* 1910, pp. 379-382 (fig.), A. MERLIN describes a bronze cylinder found about 1500 m. from Béja, Tunis, in 1910. It is 0.621 m. high, with an outer diameter of 0.363 m. and open at both ends. On the outside it is divided into an upper and lower panel by mouldings. On the upper panel are two curving ivy vines tied together at their ends with ribbons. Between them is a figure clad in a short tunic, with flying hair, apparently dancing and brandishing a shield. At the top of the panel is a border of spirals, while a corresponding border at the bottom is the only decoration of the lower panel. The design is of silver and red copper damascened upon the bronze. The cylinder probably had a cover originally, and A. HÉRON DE VILLEFOSSE (*ibid.* pp. 382-383) suggests that it was used as a stand.

BONAH. — Recent Excavations. — In *Mél. Arch. Hist.* XXXI, 1911, pp. 321-347, F. G. DE PACHTREE describes the results of recent excavations at Bonah (Hippo) in Tunis, comprising fragments of an enormous wall and architectural remains in Punic style of the pre-Roman period, and the ruins of two Roman villas, one above the other, with mosaic pavements. One of these pavements, twenty-five square metres in area, represents a hunting scene, and another a fishing scene.

DJEMILAH. — An Honorary Inscription. — In *B. Soc. Ant. Fr.* 1911, pp. 122-124, J. MARTIN publishes a Latin inscription recently found at Djemilah. It is a dedication in honor of L. Alfenus Senecio, who had been procurator of Mauretania Caesariensis, and later procurator of Belgium.

DOUGGA. — The Jus Legatorum Capiendorum. — In *C. R. Acad. Insc.* 1911, pp. 496-503, L. POINSSOT publishes a Latin inscription recently found at Dougga in which the "*pagus Thuggensis* receives the right *capiendorum legatorum*."

KEF MESSELINE. — A Libyan Necropolis. — In *C. R. Acad. Insc.* 1911, pp. 524-529 (fig.), Dr. CARTON describes a Libyan cemetery discovered by him in the oak forest of Kef Messeline. Thirty stelae were found in position, and nearly all of them had inscriptions in Libyan characters.

MACTAR. — Recent Discoveries. — In *C. R. Acad. Insc.* 1911, pp. 505-513, L. CHATELAIN reports upon his recent excavations at Mactar, Tunis. Remains of three buildings were found. Of the first, a rectangular platform surrounded by six columns placed in a hexagon, and with a semi-circular niche on one side, alone remained. The second was larger and consisted of three rooms. There was a middle room with a semicircular compartment at each end, and, on each side, a rectangular room separated from it by columns. All three rooms had mosaic pavement. The third building, erected in 170 A.D., was not sufficiently excavated to obtain its plan. (See also *Mél. Arch. Hist.* XXXI, 1911, pp. 349-363.)

MAHDIA. — Discoveries in 1911. — In *C. R. Acad. Insc.* 1911, pp. 556-565, A. MERLIN describes the discoveries in the sea off Mahdia in 1911 (see *A. J. A.* XIII, pp. 102 f., 374; XIV, pp. 248, 388 f.; XV, pp. 112 f., 551 f.). The ship carried a deck-load of sixty-five unfluted marble columns, in seven piles. The hold was divided into several compartments, which were partly explored. Among the things found were a bronze breast which fitted a

head of Athena discovered in 1910; two bounding female panthers of bronze, which once decorated some object; a bronze horn of plenty; numerous bronze handles and ornaments for furniture; two bronze satyrs' heads; a comic mask of a crusty old man; a marble relief of Asclepius and Hygieia at a banquet; several pieces of large marble vases; and one of the lead anchors.

SOUSSE.—**A Phoenician Sanctuary.**—In *C. R. Acad. Insc.* 1911, pp. 470–480 (2 figs.), Canon LEYNAUD describes the remains of a Phoenician sanctuary discovered by him in March, 1911, at Sousse, Tunis, while excavating for a bell-tower for his church. He found sixty-seven small urns containing bones of fowl and small animals, eighteen carved stelae, about five hundred ointment bottles, thirty-eight lamps, and more than one hundred small vases, besides many fragments. All were blackened by fire. The stelae are ornamented with pillars, flowers, and geometrical designs.

UNITED STATES

NEW YORK.—**Recent Acquisitions of the Metropolitan Museum.**—In *B. Metr. Mus.* VI, 1911, pp. 130–134 (8 figs.), E. R(Obinson) publishes a bronze statuette of the philosopher Hermarchus (Fig. 2) recently acquired



FIGURE 2.—STATUETTE OF HERMARCHUS IN NEW YORK.

by the Metropolitan Museum. It is 26 cm. high, and originally stood on a column pedestal, of which only the capital and the core of the shaft remain. It represents the aged philosopher draped in the himation alone. It is naturalistic, and in style resembles the Vatican statue of Demosthenes. It dates from about 270 B.C. *Ibid.* pp. 150–152 (2 figs.), the same writer publishes another acquisition, a life size marble portrait head of Epicurus (Fig. 3). It is a well preserved Greek original. *Ibid.* pp. 210–216 (10 figs.), G. M. A. R(ichter) reports the following acquisitions: a large Greek tombstone; a marble torso of Heracles; a stele, 99 cm. high, of a young girl

in Doric chiton, holding a pomegranate in her right hand and a bag in her left, in style resembling the maidens of the Parthenon frieze; a large marble head of a youth, 33.1 cm. high, in the style of Scopas, evidently broken from a relief; a small ivory relief, 14.3 cm. high, representing a girl playing the lyre and dancing, probably part of a box cover, date sixth century B.C., technique excellent; a bronze statuette of Poseidon, 12.1 cm. high, said to

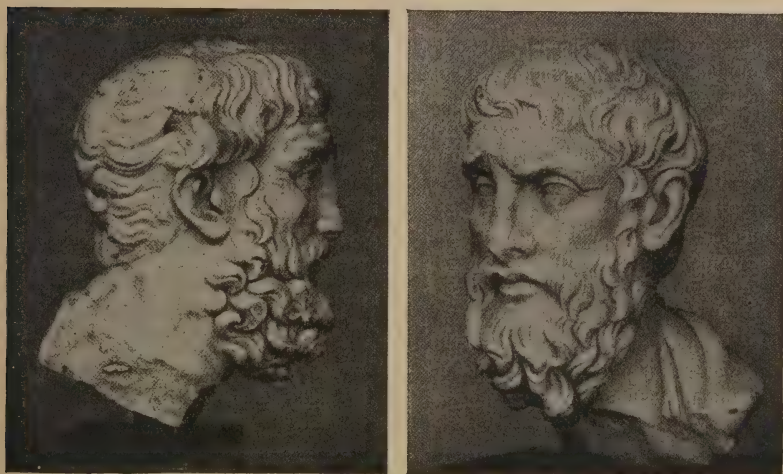


FIGURE 3. — HEAD OF EPICURUS IN NEW YORK.

have been found at Leicester Fosse, England; a bronze Aphrodite reproducing the Aphrodite of Cnidos; a bronze relief of two warriors fighting, of Roman date; a well-modelled Roman statuette of a bull, 11 cm. long; a small vase in the shape of a female head with diadem; four terra-cotta statuettes, of which one represents a woman seated with her arm about a tombstone, and another is a seated woman of the "Tanagra" type; a terra-cotta antefix; a pair of gold earrings of sixth century date, from Naxos. *Ibid.* Supplement, June, 1911, pp. 7-23 (32 figs.), the same writer describes the important collections of ancient glass which have now been brought together in one room in the Museum.

EARLY CHRISTIAN, BYZANTINE, MEDIAEVAL, AND RENAISSANCE ART

GENERAL AND MISCELLANEOUS

ADALIA. — **A French Inscription.** — In *B.S.A.* XVI (session 1909-1910), pp. 185 f., F. W. HASLUCK publishes a French inscription in Adalia (Asia Minor) recording the capture of the place by Pierre I, King of Jerusalem and Cyprus, in the year 1361.

CONSTANTINOPLE. — **Byzantine Silver Utensils.** — Publication is given for the first time to the Treasure of Stûmâ by J. EBERSOLT in *R.*

Arch. XVIII, 1911, pp. 406-419. It was found in 1908 at Stûmâ in the district of Alep, and is now in the museum at Constantinople. The treasure consists of a liturgical fan of gilded silver, a patena of gilded silver with an inscription on the rim and the Communion of the Apostles represented in repoussé in the centre, and two other patenas in silver decorated with an incised cross, one of them bearing an inscription on the rim. The Apostle scene (Fig. 4) is remarkable in that Christ is represented twice, feeding the



FIGURE 4. — SILVER PATENA IN CONSTANTINOPLE.

apostles to right and left after the manner of the continuous method in art. The inscriptions are conceived as prayers, first for the saints and second for deceased relatives of the donor of the patena. The treasure was evidently part of the liturgical furniture of a church. The palaeography of the inscriptions dates the treasure in the early seventh century.

HARAB-ES-SCHEMS.—**Early Christian Churches.**—Herzog JOHANN GEORG of Saxony contributes to *Röm. Quart.* 1911, pp. 72-79, a description of the ruins at Harab-es-Schems halfway between Aleppo and Kalaat-Siman. The remains of a fairly large basilica are still to be seen, three-aisled and dating from the fifth century. The rather rude decoration

shows that its builders were little affected by the art of Kalaat-Siman. The capitals of the columns are of various design and some of them in the Ionic style. The apse is flanked in the usual Syrian fashion by side rooms. The west front is very well preserved, retaining its door-frames and windows. A smaller church is located on a height above the one just described. It is probably a cemetery chapel. The apse is preserved and does not seem to have been concealed by side rooms. The general aspect of the ruins is that of a site outside of the trend of contemporary culture. Pagan survivals are to be detected and the monogram of Christ does not once occur.

A NEW PERUGINO.—U. GNOLI in *Rass. d' Arte Umbra*, 1911, pp. 77-78, describes and reproduces an Adoring Virgin by Perugino which was sold at the Sedelmeyer sale in Paris three years ago. Its location is now unknown. The half-figure of the Madonna is a weak copy by the artist of his famous Certosa Madonna in the National Gallery in London.

ITALY

BAGNARA.—**Unknown Pictures by Innocenzo da Imola.**—Two works by Innocenzo da Imola, who represents a group of painters educated under the influence of Costa and Francia, but in its later work strongly affected by Raphael, are noted in *Boll. Arte*, V, 1911, pp. 145-151, by G. BALLARDINI. One is in the Chiesa Arcipretale at Bagnara, and represents the Madonna with saints, the other in the church of S. Apollinare in Val Senio has the same subject with the addition of a donor and a child St. John. Both are signed and dated; the first 1515, the second 1516. They are thus representative of the artist's early period.

BOLOGNA.—**A New Tintoretto.**—An Annunciation in the church of S. Matteo in Bologna is mentioned among the works of Tintoretto by Ridolfi, and is also mentioned in the guides of the city previous to the suppression of the church in 1863. M. MARANGONI found the picture in a store-room of the church of S. Isaia and publishes it in *Rass. d' Arte*, XI, 1911, p. 99.

BOVILLE ERNICA (BAUCO).—**An Original Fragment of Giotto's Navicella.**—A. MUNOZ publishes in *Boll. Arte*, V, 1911, pp. 161-182, a series of monuments existing in the Simoncelli chapel of the church of S. Pietro Ispano in the little village of Boville Ernica (Bauco) in the mountains of the Hernici. The most important of his finds is the head of an angel in mosaic (Fig. 5) which was brought from the ruins of Old St. Peter's by the bishop Simoncelli for the decoration of his chapel. The inscription beneath the head, which stands in a small stucco shrine on the altar, reads as follows: *Haec angeli imago erat in historia naviculae S. Petri quam in atrio veteris basilicae Iottus pictor, etc.* The companion piece to the mosaic is the angel head in the Vatican Crypts, restored in 1727. As there is no trace of the angels in the copies of the Navicella, Munoz supposes that they were put in the spandrels between the curve of the lunette and its square frame. Other unpublished monuments of the chapel are: two figures of Sts. Peter and Paul by Andrea Bregno, taken from the De Pereriis altar in Old St. Peter's; two angel figures probably from the same altar; and a relief representing the Holy Family, the work of the sculptor of the monument of the Bishop Superanzio in S. Maria sopra Minerva in Rome.

CIVITACASTELLANA. — **Sculptures in the Cathedral.** — A series of monuments in the cathedral at Civitacastellana is described by A. MUNOZ in *Boll. Arte*, V, 1911, pp. 121-134. The most interesting pieces



FIGURE 5. — MOSAIC FROM GIOTTO'S NAVICELLA.

are: the front of a sarcophagus with a hunting scene, of the eighth century; a Cosmatesque portal formerly in the church of S. Francesco with two caryatids supporting the columns, under one of which is inscribed the appeal: ENEAS CATIVE IVTA ME and under the other NON POSSVM QUIA CREPO; two reliefs by a follower of Agostino di Duccio; and three ciboria (one in S. Pietro), Roman works of the fifteenth century.

FANO. — **Frescoes by Ottaviano Nelli.** — In *Rass. d' Arte Umbra*, 1911, pp. 10-15, U. GNOLI gives an account of the frescoes of Ottaviano Nelli, which were discovered at Fano in 1905 in the course of explorations in the church of S. Domenico. Only two frescoes of what must have been a considerable cycle are now left. The first represents an episode in the legend of the Magdalen. The other fresco displays the legend of S. Domenico in six episodes, and in the lunette above is the Trinity adored by the Saints.

FLORENCE. — **Discovery of a Fresco by Orcagna.** — Behind a painting of the sixteenth century in S. Croce a fragment of fresco has been found which evidently formed part of Orcagna's Triumph of Death destroyed by Vasari to make way for the modern altars. The fragment which has been recovered shows four figures of beggars and some dead bodies lying on the ground. The group is copied almost exactly by Orcagna's imitator in the Campo Santo at Pisa. (*Chron. Arts*, 1911, p. 218.)

Drawings in the Marucelliana. — P. N. FERRI describes in *Boll. Arte*, V, 1911, pp. 285-307, the chief results of his labors on the catalogue of the drawings and prints of the Biblioteca Marucelliana, which is now approaching completion. The most important of the drawings are: two sketches by Bartolomeo Montagna, viz., a St. Sebastian which served as model for the figure of the saint in a picture in the Museo Civico at Vicenza, and a female saint which reappears in another painting of the same collection; a Madonna by G. B. Zelotti which so resembles the similar group in the Madonna and Saints in the Uffizi, there attributed to Paolo Veronese, as to warrant a change of attribution for the picture; and several drawings of antique sculptures by Giovanni Antonio Dosio.

MILAN. — **Seven Pictures in the Lazzaroni Collection.** — In *Rass. d' Arte*, XI, 1911, pp. 100-104, G. BERNARDINI describes seven little known paintings in the Lazzaroni collection which he assigns as follows: a Crucifixion to the end of the fourteenth century, school of the Emilia; a Coronation of the Virgin to the Florentine school of about 1400; a Virgin adoring the Child, Florentine of about 1460-1480; a St. Jerome by Bartolomeo Vivarini; a Holy Family with the young St. John and S. Bruno, by Jacopo del Sellaio; a Virgin, Child, and Saints by Francesco Rizo da Santa Croce; and a Virgin with the Arisen Christ by Girolamo da Santa Croce.

OLEGGIO. — **Precursors of Gaudenzio Ferrari.** — R. GIOLLI publishes in *Boll. Arte*, V, 1911, pp. 207-212, a number of frescoes in Oleggio which throw much light on the sources of the Novarese artist. They consist of the frescoes on the exterior of the Oratory of the Madonna di Galnago relating the Life of Christ, a series of three Madonnas in the interior of the chapel, the Madonna in the Oratory of the Nativity of the Virgin in Gaggiolo, another in the Oratory of the Madonna di Galnago, and another in the church of the Madonna delle Grazie.

PADUA. — **Mediaeval Bronzes.** — In the court of a house in Via Luca Belludi there were discovered in 1908 a number of bronze vessels which evidently formed part of the furniture of a church dedicated to the Virgin. These are published in *Boll. Arte*, V, 1911, pp. 308-310, by G. PELLEGRI. The most interesting pieces are a lamp-holder apparently of the Romanesque period, the upper part of which consists of a perforated inscription reproducing the first words of the Ave Maria; and another object of the same character but of the Gothic period, with rim decorated with the same perforated inscription and four figures of angels ornamenting the body.

RAVENNA. — **The Earliest Representation of the Incredulity of Thomas.** — A fragment of sarcophagus preserved in the museum of Ravenna presents a scene which S. MURATORI (*N. Bull. Arch. Crist.* XVII, 1911, pp. 39-58) interprets as the earliest rendering of the incredulity of Thomas in art. The figure of Christ is youthful and unbearded, half turned to the left and raises the left arm. The disciple faces outward and ex-

tends his right hand toward Christ's left side. The monument is assigned to the fifth century.

RIMINI. — **The Opening of the Tomb of S. Giuliano.** — On June 8, 1910, the sarcophagus of S. Giuliano, a marble tomb of Roman imperial style, behind the high altar of the church at Rimini which bore his name, was opened, disclosing two wooden caskets, in the upper of which the bones of the saint were found, enveloped still in fragments of his silk and linen robes. The coins found within the sarcophagus range in date from Constantine to Innocent X (1649). Some were found in the wooden casket, some outside of it, and as no record of their position was kept they cannot be used to date the original burial of the body. It is likely, however, that the later ones found their way into the sarcophagus in the course of the mediaeval "recognitions," and that the burial may be dated in the



FIGURE 6. — CLOTH FROM THE TOMB OF S. GIULIANO.

time of the Constantine coin or in the first half of the fourth century. The earliest coin subsequent to this is a denarius of Louis I (814-840). On the other hand, the patterns of the stuffs found in the wooden casket (Fig. 6) find their closest parallel in the robes worn by S. Vitale in the apse of his church in Ravenna. (G. GEROLA in *Boll. Arte*, V, 1911, pp. 106-120.)

ROME. — **The Old Basilica of S. Crisogono.** — O. MARUCCHI gives the results of the recent excavations under the church of S. Crisogono in Trastevere in *N. Bull. Arch. Crist.* XVII, 1911, pp. 1-21. The apse and a portion of the nave have been excavated. The former has a crypt with a semicircular corridor surrounding it. Another corridor opening from this ambulatory in the direction of the axis of the nave forms the confession, at the end of which was a "*fenestella confessionis*." The lower decoration of the apse has survived, consisting of geometrical designs. In the confession frescoed figures of saints were found, dating like most of the recovered deco-

ration from the restoration of the church by Gregory III in the eighth century. The nave was adorned with medallion portraits of saints after the manner of the popes' portraits in St. Paul's. A few inscriptions and one unimportant sarcophagus have been found.

A New Bernini Bust. — *Boll. Arte*, V, 1911, pp. 81-88, contains a reproduction of the portrait-bust of Cardinal Ginnasi, d. 1639, which was recently to be seen in the church of S. Maria della Vittoria. It was evidently made at the order of his niece Caterina who founded the Carmelite convent to which the bust belongs. G. CANTALAMESSA ascribes it to the early period of Bernini on internal evidence.

S. GIOVANNI IN PERSICETO. — **An Unknown Francia.** — EDITH E. C. JAMES publishes in *Burl. Mag.* XX, 1911, pp. 6-11, a St. John Baptist by Francesco Francia now in the town hall of the village of S. Giovanni in Persiceto near Bologna. It is signed **FRANCIA AV(rif)EX.P.**

SPELLO. — **Frescoes of Niccolò Alunno.** — Some recent discoveries by Umberto Gnoli at Spello are reported. In a desecrated chapel which now serves as a shop, he has found four half-length figures of Apostles, two of which, according to the Italian correspondent of the *Cicerone*, he regards as undoubted works by Niccolò Alunno. The other two he ascribes to an assistant of this master, possibly his brother-in-law Pietro Mazzaforte, who in 1461, when these paintings were executed, was working with Alunno. Other fragments of figures of Apostles were found in the building, and a Madonna and Child which Dr. Gnoli attributes to a painter of the Marches. (*Athen.* October 21, 1911, p. 498.)

VIGEVANO. — **Frescoes by Gaudenzio Ferrari.** — A. COLOMBO publishes in *Rass. d' Arte*, XI, 1911, pp. 140-143, a series of frescoes in the Municipio of Vigevano. The largest is a group of the Madonna with Saints Ambrose and Peter inscribed with the date MDXV. It is ascribed with some reserve to Gaudenzio Ferrari. The other frescoes are small lunettes which were probably formerly in the Castello. They are nine in number and unhesitatingly ascribed to Gaudenzio by the writer, with one exception, a Christ-Child in the Cradle, which seems to belong to an earlier period.

SPAIN

CORDOVA. — **Hispano-Arabic Remains.** — In *Burl. Mag.* XIX, 1911, pp. 270-278, BERNARD and ELLEN WHISHAW publish notes on the results of the recent excavations on the site of Medina-Azzahra, the pleasure city begun in 936 by Abderrahman III, Khalif of Cordova, and finished under his grandson Hisham II. The chief relic of the city is a well-head found years ago at Seville and now in the museum at Madrid, but shown to be part of the decoration of the Alcazar of Azzahra by its inscription. It contains a curious mixture of Coptic and Yemenite symbolism, the Yemenite eagle, for instance, standing on the Anubic jackal. The strong Coptic influence on this art is seen in the formal decoration also and is explained by the fact that the early art of Seville was given a Coptic cast by the "Egyptians" whom the Arab founders brought with them to decorate their city, and was transplanted to Cordova by Abderrahman, who was a Sevillian by birth and ancestry.

VALENCIA. — **Spanish Records concerning Starnina.** — The long effort of students to find traces of Starnina in Spain has at last been re-

warded by the discovery of documents showing that he dwelt and worked in Valencia during the years 1398 and 1401. This documentary evidence is communicated to *Arte e Storia*, XXX, 1911, pp. 205-206, after publications in Spanish journals, by A. SCHMARSOW.

FRANCE

PARIS.—**Acquisitions of the Louvre.**—The Louvre has recently acquired: a painting by Poussin, "Apollo inspiring a Young Poet"; a Madonna with two Saints, by Neroccio di Bartolommeo; a portrait of the Spanish school of the seventeenth century; a Portrait of a Girl, by Cranach the Elder (*Chron. Arts*, 1911, pp. 188-189); a bronze Dancing Girl, Venetian work of the sixteenth century; a faience cup, Persian of the thirteenth century (*ibid.* p. 193); and the Aigueperse St. Sebastian by Mantegna (*ibid.* p. 241).

VAUGINES.—**An Early Christian Table Altar.**—An altar was recently discovered at Vaugines (Vaucluse) by M. Deydier, which forms part of a series of early Christian altars discovered in Provence, which were supported on a central column or on legs. On its anterior edge are carved two groups of six doves facing the Constantinian monogram in the centre. The other sides are decorated with a vine ornament. The altar dates from the sixth or seventh century. (PROU, *B. Arch. C. T.* 1911, April, pp. III-VIII.)

BELGIUM

BRUSSELS.—**Miniatures by Jan Van Roome.**—The signature **IA ROME** can be traced on the headgear of the attendant in the miniature of the Circumcision in the *Heures de la Princesse de Croy*, a manuscript belonging to the collection of the Duc d'Arenberg in Brussels. The tiara of the high priest seems likewise to bear the date ANO MDV. Date and name are consistent with the identification of the artist with Jan van Roome, the painter of Marguerite of Austria (fl. 1498-1521). Five other miniatures in the manuscript may be given to him, viz., the Visitation, Nativity, Flight into Egypt, Death of the Virgin, and a Pietà. (F. DE MÉLY, *Gaz. B.-A.*, IV, 1911, pp. 243-253.)

GERMANY

BERLIN.—**Acquisitions of the Kaiser-Friedrich Museum.**—Recent important additions to the Kaiser-Friedrich Museum are the following: a series of South Italian examples of mediaeval sculpture (*Ber. Kunsts.* XXXII, 1911, cols. 166-178); a series of German Renaissance medallions from the Von Lanna collection (*ibid.* cols. 211-219); a sketch-book of G. B. Tiepolo (*ibid.* cols. 242-248); a large collection of Carolingian coins (*ibid.* cols. 281-282); noteworthy specimens of Fostat, Persian and Mesopotamian pottery (*ibid.* XXXIII, 1911, cols. 1-12); a wooden relief, The Descent from the Cross, by Hans Leinberger (early sixteenth century); an Entombment, a wooden relief, by Hans Schwartz, dated 1516; and a relief in stone representing a Garden of Love, by Loy Hering, early sixteenth century (*ibid.* cols. 29-40).

Two Drawings by the Hausbuchmeister.—In *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 180-184, appear reproductions of two drawings recently

acquired by the Kupferstichkabinett, and ascribed to the Hausbuchmeister. They possess great historical interest in representing incidents of the imprisonment of the "King of the Romans," Maximilian, by the inhabitants of Bruges in 1488. In one drawing, the king is represented assisting at the solemn mass, during which he swore his abdication; in the other he sits at table, partaking of the gala banquet which followed the ceremony. The reproduction is accompanied by a commentary by A. WARBÜRG.

KEVELAER. — *The Earliest View of Assisi.* — Niccolò Alunno painted a standard for Assisi which was known as the "Gonfalone della Peste," being carried in processions to avert epidemics. The painting, long lost, was recently discovered in the Priesterhaus in Kevelaer, Germany, by Perdrizet. It represents Christ in the heavens, supported by a mandorla of cherubim, the Virgin kneeling in intercession on a cloud, and a row of saints below. The bottom of the picture contains a representation of Assisi, which, in view of the date of the painting (1468-1470), is the earliest view of the city in existence. Apart from the conventions of quattrocento landscape, the city's aspect is surprisingly like that of to-day, showing how little change the centuries have brought to the ancient town. (U. GNOLI, *Boll. Arte*, V, 1911, pp. 63-70.)

STRASSBURG. — *Acquisitions of the Gallery.* — The Strassburg Gallery has recently acquired the following Italian pictures: a Madonna by Cesare da Cesto; two portraits by Bronzino; a Holy Family, by Pier Francesco Sacchi, dated 1514; a Betrothal of St. Catherine, assigned to Girolamo Marchesi, which is instead a work by Francesco Zaganelli; a painting by Giovanni Speranza of Vicenza; and a View of Venice, by Francesco Guardi. (G. FRIZZONI, *Chron. Arts*, 1911, p. 236.)

AUSTRIA

VIENNA. — *A Late Byzantine "Athos" Painting.* — An interesting painting is published in *Byz. Zeit.* 1911, pp. 197-198, by Herzog JOHANN GEORG of Saxony. It is at present placed over a door in the clerical Schatzkammer of the Hofburg in Vienna. In the centre is a half-figure of the Madonna. The borders of the panel are taken up by scenes from the life of Christ interspersed with various figures of a symbolical character. Below the Madonna are the kneeling figures of the Emperor Leopold I and his third wife Eleonore. An inscription, probably added after the picture came to Vienna, states that it was "probably" painted in a monastery of Mt. Athos. The inscriptions on the picture itself with few exceptions are in Latin. The imperial portraits date the picture at the end of the seventeenth century.

GREAT BRITAIN

NEW HOLBEINS. — In *Burl. Mag.* XX, 1911, pp. 31-32, P. GANZ publishes two portraits by Hans Holbein the Younger, one of which may be the "Portrait of a Musician" mentioned in the Arundel Inventory (see below). It is a half figure of a man who holds the neck of a guitar in his left hand. The sitter is probably Jean de Dinteville at an age somewhat more advanced than that at which he is represented in the "Ambassadors." The portrait is in the possession of Sir John Ramsden at Bulstrode Park. The other

work is a portrait of Derick Berck of Cologne in the collection of Lord Leconfield at Petworth.

CHICHESTER. — **An Early Madonna.** — A remarkable English primitive is made known by the publication of a painted stone disk (Fig. 7) in



FIGURE 7. — PAINTED STONE DISK AT CHICHESTER.

the Bishop's Chapel of Chichester (W. R. LETHABY, *Burl. Mag.* XX, 1911, p. 4). It is English work of about 1250. The colors are light and delicate.

LONDON. — **The Inventory of the Arundel Collection.** — The great collection of pictures formed by Thomas, Earl of Arundel, was, at the time of his death in Padua in 1646, in the possession of his wife in Holland. At her death in 1654, a law-suit arose among the heirs for the

possession of the pictures, and the inventory which figured in this case has been found in the British Record-Office. It is published with an historical commentary in *Burl. Mag.* XIX, 1911, pp. 278-286 and 323-325, by L. CUST and MARY COX.

A Portrait by Baldassare D'Este. — A unique monument is published by H. COOK in the *Burl. Mag.* XIX, 1911, pp. 228-233, in the shape of a portrait of an unknown man signed by Baldassare D'Este, natural son of Duke Niccolò III, and court painter at Ferrara in the middle of the fifteenth century. No other work can be certainly ascribed to him.

Spanish Church Plate in the British Museum. — In *Proc. Soc. Ant.* XXIII, 1911, pp. 474-477 (6 figs.), C. H. READ publishes six pieces of Spanish church plate of the fifteenth century recently presented by J. P. MORGAN to the British Museum. They are a ciborium, a pair of silver candlesticks, a paten, a chalice, a standing crucifix, and a second crucifix, all silver gilt. They came from the Hospital de la Vera Cruz at Medina de Pomar.

OLD SARUM. — Excavations in 1910. — In *Proc. Soc. Ant.* XXIII, 1911, pp. 501-512 (2 pls.; plan), W. H. ST. JOHN HOPE describes the excavations at Old Sarum in 1910. The main work was the exploration of the great tower and the structures adjoining it occupying the north half of the inner bailey. The tower was rectangular, 104 ft. by 81 ft., and was built a little before 1130. On its south side was the chapel 47 ft. long, consisting of a nave of two bays and a chancel of one bay with a recess to the east 6 ft. deep for the altar. Along the east side of the great tower was a building at least two stories high. To the north was a tower with walls 8 ft. thick at the base and a rectangular chamber in the middle 10 by 7½ ft., afterwards enlarged by hollowing out the masonry. *Ibid.* pp. 512-517 (2 pls.), Colonel W. HAWLEY describes the minor finds consisting of thousands of potsherds and several whole vases of a coarse, red ware; glass fragments; iron tools; etc. A few silver coins dating from Henry II to Edward I were also found.

WINCHESTER. — A Bronze Panel. — In *Proc. Soc. Ant.* XXIII, 1911, pp. 397-402 (5 figs.), R. A. SMITH publishes an engraved bronze panel 10.8 in. long and 1.6 in. wide found in underpinning Winchester cathedral. It dates from the Viking period, and in style resembles the Ringerike series of monuments in Buskerud, Norway.

AFRICA

CARTHAGE. — The Basilica of Damous-el-Karita. — The continuation of the excavations at Damous-el-Karita has brought to light the dependances of the basilica (Fig. 8), a complex of buildings extending over 200 metres. Over 3600 inscriptions were discovered, a number of them epitaphs of nuns. Among other interesting finds are another fragment of the *elogium* recorded in *C.I.L.* VIII, 12538, a marble hand with the fingers in position to give the "Latin" blessing, and two terra-cotta lamps of unusual decoration. (DELATRE, *C. R. Acad. Insc.* 1911, pp. 566-583.)

TIMGAD. — A Byzantine Historical Inscription. — The following inscription is reported from Timgad by BALLU in the *B. Arch. C. T.* 1911, June, pp. VII-VIII:

+DEO FABENTE IN ANO XIII FELICISSIMIS TEMPO
RIBB DD MM NOSTRORVM IVSTINIANO ET THEO
DORA PERPP. AVGG. EDIFICATA EST A FVNDAMENTIS
CIBITAS TAMOGADIENSIS PROBIDENTIA BIRI EXCELLEN
TISSIMI SOLOMONIS MAGISTRI MILITVM EX CON
SVLE AC PATRICII CVNTACVE PRECELSI
ET PER AFRICA PREFECTI+✽

The thirteenth year of Justinian's reign dates in 539-540. The Solomon mentioned is the patrician who Procopius says was entrusted with the government of Africa for the second time in this year. The historian also records the destruction of the town of Thamugadi by the Berbers, but Solomon's "*edificata a fundamentis*" means only that he rebuilt the citadel.

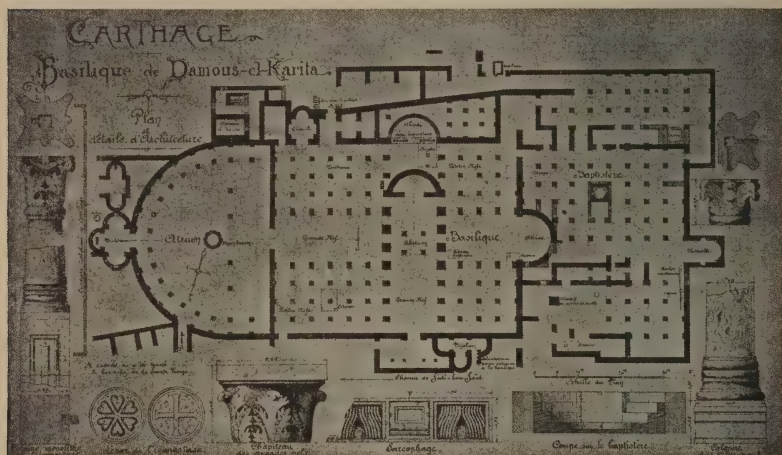


FIGURE 8. — BASILICA OF DAMOUS-EL-KARITA.

The inscription removes the suspicion that might otherwise be cast upon the list of fortresses built in Africa in the reign of Justinian which appears in a Vatican manuscript of the *Κτίσματα* of Procopius. This list is longer than in other manuscripts, but inasmuch as the name of Thamugadi appears in it, it cannot be regarded as interpolated.

UNITED STATES

BALTIMORE.—**An Historical Altar-piece.**—The altar-piece in glazed terra-cotta, representing the Temptation of Adam and Eve, in the Walters Collection at Baltimore bears an inscription containing the phrase: LEO · X · PONT · MAX · INGRESVS · EST · FLŌTIĀ (Florentiam). XXX^A (= die trigesima) · Dp. It was, therefore, designed as a memorial of the entry of Pope Leo X into Florence, November 30, 1515. The frame

and formal decoration are reminiscent of Giovanni della Robbia, but the figures of Adam and Eve and the landscape background prevent an attribution to him. (A. MARQUAND, *Burl. Mag.* XX, 1911, pp. 36-38.)

BOSTON.—**Acquisitions of the Museum of Fine Arts.**—The Museum of Fine Arts has recently acquired a portrait drawing of a youth, by Lorenzo di Credi (*B. Mus. F. A.* 1911, pp. 36-37), and a portrait said to be of Giovanni Bentovoglio, by Andrea da Solario (*ibid.* pp. 44-45). The latter picture is discussed, and its authorship confirmed by Sir CLAUDE PHILLIPS in *Burl. Mag.* XIX, 1911, pp. 287-288.

CAMBRIDGE.—**Italian Pictures.**—F. MASON PERKINS publishes in *Rass. d' Arte Umbra*, 1911, pp. 109-110, a Holy Family by Pinturicchio belonging to the period of the Borgia frescoes, and a Betrothal of St. Catherine of Alexandria, by Bernardino di Mariotto. Both pictures are in the Fogg Museum.

ENGLEWOOD.—**Pictures in the Platt Collection.**—In *Rass. d' Arte*, XI, 1911, pp. 145-149, F. MASON PERKINS continues his account of the Italian pictures in the Platt collection, Englewood (see *A.J.A.* XV, 1911, p. 442). The most important ones described are: an Adoration of the Magi, by the trecentista Jacopo d' Avanzi; Madonnas by Timoteo Viti, Bartolomeo Vivarini, Giovanni Bellini, Montagna, G. B. Moroni, and Giampietrino; a Madonna by an unknown artist of the Venetian school influenced by Basaiti; a Venetian portrait of a youth; and an angel by Luini, formerly part of the decoration of the villa Pelucca.

NEWPORT.—**Pictures in the Davis Collection.**—The Italian pictures in the Davis collection at Newport form the subject of an article by J. BRECK in *Rass. d' Arte*, XI, 1911, pp. 111-115. The most important of the pictures discussed are: a Madonna, by Masolino; a Portrait of a Man, by Sebastiano del Piombo; a male portrait, by Giulio Campi; two portraits, by G. B. Moroni; an Adoration of the Shepherds, by Ortolano; and a Madonna by Filippino Lippi. The portrait by Sebastiano del Piombo is compared with a portrait of a Cardinal in his own possession, by L. CAMPI, *ibid.* pp. 173-174. The latter picture was bought at the Wawra sale in Vienna, in 1901, and has been attributed to the Moretto da Brescia. Campi, instead, believes it to be like the Newport picture, an example of the "second manner" of Sebastiano.

NEW YORK.—**Acquisitions of the Metropolitan Museum.**—Recent additions to the Metropolitan Museum are: a terra-cotta Angel of the Annunciation, by Matteo Civitale (*B. Metr. Mus.* 1911, p. 148); three ivory reliefs, viz., a French mirror-case cover of the fourteenth century, a French knife-case and an Italian comb, both of the sixteenth century (*ibid.* pp. 163-166); a Paduan bronze statuette of about 1500 (*ibid.* p. 178); three panels of Botticelli, Miracles of S. Zanoobi; the Meditation on the Passion, by Carpaccio (see *A.J.A.* XV, 1911, pp. 441-442); an altar relief, representing the Madonna with saints and donors, ascribed to Gerardo di Mainardo; a Mars and Venus trapped by Vulcan, by Sodoma; a cassone panel by Matteo di Giovanni (*ibid.* pp. 185-194); a Nativity group by Antonio Rossellino (*ibid.* pp. 207-210); an Adoration of the Magi, by a pupil of Giotto (*ibid.* p. 216); a papal dossal of 1659; a set of six tapestries representing scenes from the Life of Christ, Alsatian of the end of the sixteenth century (*ibid.* p. 217); an Adoration of the Magi, by Quentin Metsys (*ibid.* p. 228); a

marble portrait bust by Pietro Lombardo; another in terra-cotta, by Alesandro Vittoria; a Florentine terra-cotta Visitation of about 1500 (*ibid.* pp. 232-233); and a drawing by Rembrandt, St. John and St. Peter at the Beautiful Gate (*ibid.* p. 237).

A Holbein Miniature in the Morgan Collection. — Mr. J. P. Morgan has recently acquired a miniature portrait of Thomas Cromwell, minister of Henry VIII, which, in spite of its poor condition, still betrays the hand of Holbein. It forms the subject of a note in *Burl. Mag.* XX, 1911, pp. 5-6, by L. CUST. *Ibid.* p. 175, A. B. CHAMBERLAIN contributes a note to the effect that in the Cromwell accounts at the Record-Office there occurs the following entry under January 4, 1538: "Hans, the painter, 40s.," which probably has reference to the miniature.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

CALIFORNIA. — **Shell Mounds at San Francisco and San Mateo.** — In *Rec. Past*, X, 1911, pp. 226-227 (4 figs.), A. L. KROEBER sums up briefly the results of the investigations of the winters of 1909-1910 and 1910-1911, in the course of which five mounds on the western shores of the Bay were explored. The data secured indicate that there has been "a gradual but slow and uniform development of civilization more or less common to the entire region, and merging into that of the Indians inhabiting Central California in the historic period." As to the age of the shell-mound culture, Kroeber agrees with Nelson that "the beginnings of at least some of these deposits must be placed in a period 3000 or more years ago." On the Bay shores alone, more than 400 mounds, now or formerly existing, have been located.

BRITISH HONDURAS. — **Explorations in 1908-1909.** — In *Ann. Arch. Anthr.* IV, 1911, pp. 72-87 (3 pls.), T. N. GANN describes his excavations in British Honduras in 1908-1909. At **Santillo** he explored a quadrangular space about 80 by 35 yards and four to five feet above the surrounding level, enclosed by four mounds, 12 to 30 ft. high, connected by a rampart 10 ft. high. This was a burial place, as was a second smaller quadrangle. Among the objects discovered were broken images of the gods, including eight complete heads. At **Douglas** several mounds were opened. The contents of four of them are described. Three types of burial were found here according to the social position of the deceased. At **Moho Cay** pottery rings, manatee bones, and spear heads were found; at **Boston** four mounds were opened, and two places found where chert and flint implements were manufactured. Five mounds were opened at **Corozal**, two at **Benque Viejo**, one each at **Patchacan**, **Sarteneja**, **San Estevan**, **Consejo**, and **Chetumal Bay**.

CHIAPAS. — **Palenque.** — In a letter from Mexico in *Z. Ethn.* XLIII, 1911, pp. 310-315 (3 figs.), E. SELER describes a visit to the ruins of Palenque, in which he was successful in obtaining a large number of casts of the smaller reliefs and hieroglyphs, including two of the finest and best preserved of the interesting reliefs on the entrance to the Subterrarium, — reliefs that up to the present have neither been copied nor drawn. A visit

was also made to the ruins of Cempoallan, the ancient capital of the Totonacs. From Frontera an excursion was made to the ruins of an old city, buried in the primitive forest.

GUERRERO. — **Ancient Sepulchre at Placeres del Oro.** — In *American Anthropologist*, N.S. XIII, 1911, pp. 29–55 (3 pls.; 12 figs.), H. J. SPINDEN gives an account of an interesting and important archaeological discovery, made in June, 1910, by W. Niven of Mexico City. At an ancient burial-place at Placeres del Oro, on the bank of the Rio del Oro, underneath two plain slabs of diorite, were discovered two sculptured slabs, and between these the following objects: two carved shell arm-bands, two table urns, one jadeite pendant, one small *metate* or paint mortar, one large cylindrical bead, a large number of stone and shell beads, some large shells, an obsidian core, fragmentary human bones and teeth. There are indications of at least partial cremation, perhaps the ceremonial one of the Tarascans. The objects found are described and many of them figured; historical references are also given. The two remarkable tablets are specially considered (pp. 47–55). Certain faces on these may be “intended to represent some monkey god or totemic spirit,” and “the representation was artistically infected by the serpent.” There are also possibilities of the grotesque faces being those of Tlaloc, the Aztec rain-god, or something very similar. The eye-ornaments of the profile faces suggest comparison with similar devices on Mound-builder (North America) and Calchaqui (South America) carvings. Spinden concludes that while “the multiplicity of possible connections between these sculptures and those of Central America and the Valley of Mexico seems to indicate pretty clearly that the ancient culture of Placeres del Oro was more closely related to the Nahuas than to the Tarascans,” there is also “such a strong note of individuality that we are almost justified in naming these artifacts as masterpieces of a new culture area.”

GUATEMALA. — **Ruins of Tikal.** — In *Mem. Peab. Mus. Harv.*, V, 1911, pp. 1–91 (28 pls.; 17 figs.), T. MALER describes explorations in the Department of Guatemala (Tikal), and A. M. TOZZER, pp. 93–135 (2 pls.; 30 figs.), publishes a preliminary study of the prehistoric ruins of Tikal, giving the results of the Peabody Museum Expedition of 1909–1910. Maler's explorations were made in 1895 and 1904. He describes the various palaces, temples, stelae, etc., and calls attention to the fact that Tikal excels all hitherto known ruined cities of Central America in the number of its stelae and the circular altars accompanying them (more than one hundred stelae are indicated). The incised drawings of the temples and palaces are discussed on pages 56–61, and the supposed Quetzalcoatl of Tikal on page 89. Interesting is the suggestion that the *Codex Dresdensis* may have originated in Tikal, — a copy of the Maya pictures, etc., sent to Europe as a specimen of the art of the Indians. Tozzer looks upon Tikal as the centre of an archaeological province, — it is the largest city of any size in the Maya area. The dates on the stelae place it among the very oldest of Maya cities. It was from Tikal, according to Tozzer (it is not proved), that the influence spread, which was responsible for the culture of Copan and Palenque, but Tikal was as early as these two cities.

ABBREVIATIONS

Abh.: Abhandlungen. *Allg. Ztg.*: Münchener Allgemeine Zeitung. *Alt. Or.*: Der alte Orient. *Am. Anthr.*: American Anthropologist. *Am. Archit.*: American Architect. *A.J.A.*: American Journal of Archaeology. *A. J. Num.*: American Journal of Numismatics. *A. J. Sem. Lang.*: American Journal of Semitic Languages and Literature. *Ami d. Mon.*: Ami des Monuments. *Ant. Denk.*: Antike Denkmäler. *Ann. Arch. Anth.*: Annals of Archaeology and Anthropology. *Arch. Ael.*: Archaeologia Aeliana. *Arch. Anz.*: Archäologischer Anzeiger. *Arch. Rec.*: Architectural Record. *Arch. Rel.*: Archiv für Religionswissenschaft. *Arch. Miss.*: Archives de Missions Scientifiques et Littéraires. *Arch. Stor. Art.*: Archivio Storico dell' Arte. *Arch. Stor. Lomb.*: Archivio Storico Lombardo. *Arch. Stor. Patr.*: Archivio della r. società romana di storia patria. *Athen.*: Athenaeum (of London). *Ath. Mitt.*: Mitteilungen d. k. d. Archäol. Instituts, Athen. Abt.

Beitr. Assy.: Beiträge zur Assyriologie. *Ber. Kunsts.*: Amtliche Berichte aus den Königlichen Kunstsammlungen. *Berl. Akad.*: Preussische Akademie der Wissenschaften zu Berlin. *Berl. Phil. W.*: Berliner Philologische Wochenschrift. *Bibl. Stud.*: Biblische Studien. *Bibl. World*: The Biblical World. *B. Ac. Hist.*: Boletín de la real Academia de la Historia. *Boll. Arte*: Bollettino d' Arte. *Boll. Num.*: Bollettino Italiano di Numismatica. *Bonn. Jb.*: Bonner Jahrbücher: Jahrbücher des Vereins von Altertumsfreunden im Rheinlande. *B.S.A.*: Annual of the British School at Athens. *B.S.E.*: Papers of the British School at Rome. *B. Arch. M.*: Bulletin Archéol. du Ministère. *B. Arch. C. T.*: Bulletin Archéologique du Comité des Travaux hist. et scient. *B.C.H.*: Bulletin de Correspondance Hellénique. *B. Inst. Ég.*: Bulletin de l'Institut Égyptien (Cairo). *B. Metr. Mus.*: Bulletin of the Metropolitan Museum of Art, New York. *B. Mus. Brux.*: Bulletin des Musée Royaux des arts decoratifs et industriels à Bruxelles. *B. Mus. F. A.*: Museum of Fine Arts Bulletin, Boston. *B. Num.*: Bulletin de Numismatique. *B. Soc. Ant. Fr.*: Bulletin de la Société des Antiquaires de France. *B. Soc. Anth.*: Bulletin de la Société d'Anthropologie de Paris. *B. Mon.*: Bulletin Monumental. *B. Com. Rom.*: Bollettino d. Commissione Archeologica Comunale di Roma. *B. Arch. Crist.*: Bollettino di Archeologia Cristiana. *B. Pal. It.*: Bollettino di Paletnologia Italiana. *Burl. Gaz.*: Burlington Gazette. *Burl. Mag.*: Burlington Magazine. *Byz. Z.*: Byzantinische Zeitschrift.

Chron. Arts: Chronique des Arts. *Cl. Phil.*: Classical Philology. *Cl. R.*: Classical Review. *C. R. Acad. Insc.*: Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres. *C.I.A.*: Corpus Inscriptionum Atticarum. *C.I.G.*: Corpus Inscriptionum Graecarum. *C.I.L.*: Corpus Inscriptionum Latinarum. *C.I.S.*: Corpus Inscriptionum Semiticarum.

Ἐφ. Ἀρχ.: Ἐφημερίς Ἀρχαιολογική. *Eph. Ep.*: Ephemeris Epigraphica. *Eph. Sem. Ep.*: Ephemeris für Semitische Epigraphik. *Exp. Times*: The Expository Times.

Fornvännen: Fornvännen: meddelanden från K. Vitterhets Historie och Antikvitets Akademien.

Gaz. B.-A.: Gazette des Beaux-Arts. *G.D.I.*: Sammlung der griechischen Dialekt-Inschriften.

I.G.: Inscriptiones Graecae (for contents and numbering of volumes, cf. *A.J.A.* IX, 1905, pp. 96-97). *I.G.A.*: Inscriptiones Graecae Antiquissimae, ed. Roehl. *I.G. Arg.*: Inscriptiones Graecae Argolidis. *I. G. Ins.*: Inscriptiones Graecarum Insularum. *I. G. Sept.*: Inscriptiones Graeciae Septentrionalis. *I. G. Sic. It.*: Inscriptiones Graecae Siciliae et Italiae.

Jb. Arch. I.: Jahrbuch d. k. d. Archäol. Instituts. *Jb. Kl. Alt.*: Neue Jahrbücher für das klassische Altertum, Geschichte und deutsche Litteratur und für Pädagogik. *Jb. Kunsth. Samm.*: Jahrbuch der Kunsthistorischen Sammlungen des allerhöchsten Kaiserhauses. *Jb. Phil. Päd.*: Neue Jahrbücher für Philologie und Pädagogik (Fleckeisen's Jahrbücher). *Jb. Preuss. Kunsts.*: Jahrbuch d. k. Preuss. Kunstsammlungen. *Jh. Oest. Arch. I.*: Jahreshefte des oesterreichischen Archäologischen Instituts. *J. Asiat.*: Journal Asiatique. *J.A.O.S.*: Journal of American Oriental Society. *J. B. Archaeol.*: Journal of the British Archaeological Association. *J. B. Archit.*: Journal of the Royal Institute of British Architects. *J. Bibl. Lit.*: Journal of Biblical Literature. *J.H.S.*:

Journal of Hellenic Studies. *J. Int. Arch. Num.*: *Διέθνῃς Ἑφημερίς τῆς νομισματικῆς ἀρχαιολογίας*, Journal international d'archéologie numismatique (Athens).

Kb. Gesamtver.: Korrespondenzblatt des Gesamtvereins der deutschen Geschichts- und Altertumsvereine. *Klio*: Klio: Beiträge zur alten Geschichte. *Kunstchr.*: Kunstchronik.

Mb. Num. Ges. Wien: Monatsblatt der Numismatischen Gesellschaft in Wien. *Mh. f. Kunstw.*: Monatshefte für Kunstwissenschaft. *Mél. Arch. Hist.*: Mélanges d'Archéologie et d'Histoire (of French School in Rome). *Mél. Fac. Or.*: Mélanges de la Faculté Orientale, Beirut. *M. Acc. Modena*: Memorie della Regia Accademia di scienze, lettere ed arti in Modena. *M. Inst. Gen.*: Mémoires de l'Institut Genevois. *M. Soc. Ant. Fr.*: Mémoires de la Société des Antiquaires de France. *Mitt. Anth. Ges.*: Mitteilungen der anthropologischen Gesellschaft in Wien. *Mitt. C.-Comm.*: Mitteilungen der königlich-kaiserlichen Central-Commission für Erforschung und Erhaltung der Kunst- und historischen Denkmale. *Mitt. Or. Ges.*: Mitteilungen der deutschen Orient-Gesellschaft. *Mitt. Pal. V.*: Mitteilungen und Nachrichten des deutschen Palestina Vereins. *Mitt. Nassau*: Mitteilungen des Vereins für nassauische Altertumskunde und Geschichtsforschung. *Mitt. Vorderas. Ges.*: Mitteilungen der vorderasiatischen Gesellschaft. *Mon. Ant.*: Monumenti Antichi (of Accad. d. Lincei). *Mon. Piot*: Monuments et Mémoires pub. par l'Acad. des Inscriptions, etc. (Fondation Piot). *Mün. Akad.*: Königlich Bayerische Akademie der Wissenschaften, München. *Mün. Jb. Bild. K.*: Münchner Jahrbuch der bildenden Kunst.

N. D. Alt.: Nachrichten über deutsche Altertumsfunde. *Nomisma*: Nomisma: Untersuchungen auf dem Gebiete der antiken Münzkunde. *Not. Scav.*: Notizie degli Scavi di Antichità. *Num. Chron.*: Numismatic Chronicle. *Num. Z.*: Numismatische Zeitschrift. *N. Arch. Ven.*: Nuovo Archivio Veneto. *N. Bull. Arch. Crist.*: Nuova Bullettino di Archeologia cristiana.

Or. Lit.: Orientalistische Literaturzeitung. *Or. Lux*: Ex Oriente Lux.

Pal. Ex. Fund: Quarterly Statement of the Palestine Exploration Fund. *Πρακτικά*: Πρακτικά τῆς ἐν Ἀθήναις ἀρχαιολογικῆς ἐταιρείας. *Proc. Soc. Ant.*: Proceedings of the Society of Antiquaries.

Rass. d'Arte: Rassegna d'Arte. *Rec. Past*: Records of the Past. *R. Tr. Ég. Assyr.*: Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes. *Reliq.*: Reliquary and Illustrated Archaeologist. *Rend. Acc. Lincei*: Rendiconti d. r. Accademia dei Lincei. *Rep. f. K.*: Repertorium für Kunstwissenschaft. *R. Assoc. Barc.*: Revista de la Asociacion artistico-arqueologica Barcelonesa. *R. Arch. Bibl. Mus.*: Revista di Archivos, Bibliotecas, y Museos. *R. Arch.*: Revue Archéologique. *R. Art Anc. Mod.*: Revue de l'Art ancien et moderne. *R. Art Chrét.*: Revue de l'Art Chrétien. *R. Belge Num.*: Revue Belge de Numismatique. *R. Bibl.*: Revue Biblique Internationale. *R. Ép.*: Revue Épigraphique. *R. Ét. Anc.*: Revue des Études Anciennes. *R. Ét. Gr.*: Revue des Études Grecques. *R. Ét. J.*: Revue des Études Juives. *R. Hist. Rel.*: Revue de l'Histoire des Religions. *R. Num.*: Revue Numismatique. *R. Or. Lat.*: Revue de l'Orient Latin. *R. Sém.*: Revue Sémitique. *R. Suisse Num.*: Revue Suisse de Numismatique. *Rh. Mus.*: Rheinisches Museum für Philologie, Neue Folge. *R. Abruzz.*: Rivista Abruzzese di Scienze, Lettere ed Arte. *R. Ital. Num.*: Rivista Italiana Numismatica. *R. Stor. Ant.*: Rivista di Storia Antica. *R. Stor. Calabr.*: Rivista Storica Calabrese. *R. Stor. Ital.*: Rivista Storica Italiana. *Röm.-Germ. Forsch.*: Bericht über die Fortschritte der Römisch-Germanischen Forschung. *Röm.-Germ. Kb.*: Römisch-Germanisches Korrespondenzblatt. *Röm. Mitt.*: Mitteilungen d. k. d. Archäol. Instituts, Röm. Abt. *Röm. Quart.*: Römische Quartalschrift für christliche Altertumskunde und für Kirchengeschichte.

Sächs. Ges.: Sächsische Gesellschaft (Leipsie). *Sitzb.*: Sitzungsberichte. *S. Bibl. Arch.*: Society of Biblical Archaeology, Proceedings.

Voss. Ztg.: Vossische Zeitung.

W. kl. Phil.: Wochenschrift für klassische Philologie.

Z. D. Pal. V.: Zeitschrift des Deutschen Palestina Vereins. *Z. Aeg. Sp. Alt.*: Zeitschrift für Aegyptische Sprache und Altertumskunde. *Z. Alttest. Wiss.*: Zeitschrift für alttestamentliche Wissenschaft. *Z. Assyr.*: Zeitschrift für Assyriologie. *Z. Bild. K.*: Zeitschrift für Bildende Kunst. *Z. Ethn.*: Zeitschrift für Ethnologie. *Z. Morgenl.*: Wiener Zeitschrift für die Kunde des Morgenlands. *Z. Morgenl. Ges.*: Zeitschrift der deutschen Morgenländischen Gesellschaft. *Z. Mün. Alt.*: Zeitschrift des Münchener Alterthumsvereins. *Z. Num.*: Zeitschrift für Numismatik.

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WITH ILLUSTRATIONS

Volume XVI

1912

Number 2

APRIL - JUNE



NORWOOD, MASS.

PUBLISHED FOR THE INSTITUTE BY

The Norwood Press

NEW YORK: THE MACMILLAN COMPANY

LONDON: MACMILLAN & CO., LTD.

Entered at the post-office at Norwood, Mass., as second-class matter, June 1, 1898.

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NORWOOD, MASS.

PUBLISHED FOR THE INSTITUTE BY

The Norwood Press

NEW YORK: THE MACMILLAN COMPANY

64-66, FIFTH AVENUE

LONDON: MACMILLAN & CO., LTD.

Annual Subscription, \$5.00

Single Numbers, \$1.50

PUBLISHED QUARTERLY

Norwood Press
J. S. Cushing Co. — Berwick & Smith Co.
Norwood, Mass., U.S.A.

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Communications in regard to papers to be presented at the meeting of the Institute should be addressed (if possible, by the middle of October) to Mitchell Carroll, General Secretary of the Institute, The Octagon, 1741 New York Avenue, Washington, D.C.,

ON SOME RECENTLY DISCOVERED WORKS BY
LUCA DELLA ROBBIA

It is my privilege to call attention to four works by Luca della Robbia, which have hitherto, so far as I am aware, escaped the notice of historians of art. As is the case with many objects which have wandered from their homes, the original provenance of these monuments has been forgotten and historical or documentary evidence is wanting, but the sculptures speak for themselves and historical documents would add little or nothing to the security of our attribution. Two of the four are in Nynhead Church, at Wellington, Somerset, and two are in the hands of a dealer in Paris.

1. *The Wellington Madonna* (Fig. 1).

This relief was originally rectangular in shape, measuring in height 0.75 m. and in breadth 0.45 m. It has been cut away at the upper angles so as to fit into a niche of late Gothic form, arranged to receive it in 1833, when it was presented to the church by the vicar, Rev. John Sanford. The figures are covered with a thick, hard, white glaze, and are set against a fine blue background. It is not to be classed as polychromatic, though there are traces of gold on the hair, the eyes have blue irises, dark blue or violet eyebrows and lashes, and the sloping base on which the child stands is gray blue. The small piece of blue background below the right knee of the child is splashed with white, but this appears to be accidental.

The composition is one which will be readily recognized as that of Luca della Robbia, but to prove this attribution it is necessary that we analyze the relief in detail.

In the lunettes from S. Pierino and from the Via dell' Agnolo, both of which are now in the Museo Nazionale, Florence, Luca had represented the Madonna and angels as emerging from or floating above the clouds. In the cantoria for the

Cathedral of Florence he had also represented the singing boys and maidens as standing upon clouds. Here we have a fragment of a lunette composition, from which the lateral angels



FIGURE 1. — MADONNA IN NYNEHEAD CHURCH, WELLINGTON, SOMERSET.

and the basal clouds have been omitted. The composition, although on a rectangular plaque, retains somewhat of a triangular or pyramidal character. The resultant effect is very

different from that of Andrea della Robbia's Madonnas, which, in many instances, represent a seated group.

It may be further noticed that the Child is here posed to the right of the Madonna. In the S. Pierino lunette, in all probability an early work, Luca had placed the Child toward the left; but the composition was not particularly successful, and almost invariably afterward he set the Child to the right.¹ In this group, as in many others by Luca della Robbia, neither the Madonna nor the Child wears a halo, but inasmuch as Luca made use of haloes as early as 1442 (Peretola tabernacle) and again in 1455 (Federighi Tomb) it is not easy to determine whether the presence or absence of the halo has, in Luca's works, any chronological significance. As a rule, however, Luca made little use of haloes, while his more conventional nephew, Andrea, employs them with great frequency.

If we regard the structural forms, we find in the Madonna's oval face, her long neck and flat breasts, her slender arms with hands ending in long tapering fingers, characteristics which may be paralleled in many of Luca's Madonnas. Add to this the waving hair, almost obliterating the ear, the blue eyes with the stippled eyebrows, the long, straight nose, the timid, open mouth, and the sharp-pointed chin, and the attribution approximates certainty. The drapery also is most characteristic of Luca's handiwork. We note especially the ruffle and flat neck band, the simple folds of the tunic, the plain girdle without even a bow knot, the tight buttoned sleeves, and the mantle drawn across the front. All of these peculiarities are many times repeated in Luca's Madonnas. One little detail should not escape our notice. The portion of the mantle which covers the body is drawn together above the arm which sustains it. In this case it forms only a slight gathering, but it becomes a more distinct bunch in the Urbino lunette (1449-1452), in the Federighi Tomb (1455), in the Foulc Adoration, and in the Adoration at Wellington.

The Wellington Madonna, though resembling several of Luca's Madonnas, is closely related to one which was once in the collection of Marchese Carlo Viviani della Robbia and

¹ In Madame André's Madonna the Child is turned to the left. Cf. Bode, *Denkmäler Tosc. Sc.*, Taf. 215^b; Schubring, *Luca della Robbia*, Abb. 84.

later in that of Prince Demidoff.¹ The composition of the latter relief is less pyramidal, better adapted to the rectangular form of the plaque. The Madonna is more matronly, wears a veil and a halo, and is less intimate in her embrace of the Child. The Child wears a halo, but otherwise closely resembles the Child of the Wellington Madonna, even to details of modelling. He grasps with his right hand the Madonna's mantle, but with his left holds an apple. The Demidoff Madonna seems to be somewhat more advanced as a work of art, but the sculptor adheres to the same forms and to the same type of drapery, including the ruffles, flat neck band, plain girdle, and buttoned sleeves. He has, however, reverted to an earlier type in displaying the clouds from which Mother and Son are emerging.

It is difficult to assign a date to the Wellington Madonna, but the comparisons we have made suggest that it may be assigned to within a few years of 1450.

2. *The Wellington Madonna adoring the Child* (Fig. 2).

The generous vicar, Rev. John Sanford, in the same year (1833), presented also to Nynehead Church, Wellington, a very beautiful Madonna adoring the infant Christ. He labelled it correctly, "The work of Luca della Robbia," an attribution which the wise men of Wellington no longer respect. They assign it to the school of Andrea, as if it were only one of the innumerable adorations so familiar to us all. On the contrary this adoration is quite unique, — there being no replica of it, — and its composition, form, color, and the enamel, all point to Luca della Robbia as its author.

The finest of Andrea's representations of the Adoration is the very beautiful altarpiece at La Verna, a marked feature of which is the presence of God the Father, surrounded by six cherubs, by the Holy Spirit represented as a Dove, and by eight angels amid the clouds singing the Gloria in Excelsis. In the countless reliefs representing the Madonna adoring the Child which are referable to Andrea della Robbia it would be difficult to cite a single instance² in which there is not one or

¹ Bode, *Denkmäler*, Taf. 243^a; Marcel Reymond, *Les della Robbia*, p. 110; Schubring, *Luca della Robbia*, Abb. 83.

² Except predella reliefs.

more of these heavenly accessories. At Wellington we have the Adoration reduced to its simplest elements, with no sug-



FIGURE 2.—ADORATION IN NYNEHEAD CHURCH, WELLINGTON, SOMERSET.

gestion of clouds or of the inhabitants of Heaven. It is merely a beautiful young mother worshipping a child, with annunciation lilies in the background to tell us that this mother is the

Blessed Virgin Mary. As in Luca's representations of the Mother and Child, the accent is placed upon the Madonna. Through her expressive attitude, not by any dominating gesture on the part of the Child, are we directed to the object of worship. Luca frequently uses triangular or pyramidal composition, which is effected here by the very unusual device of carrying the mantle diagonally across the background and spreading it beneath the Child. In the Statens Museum at Copenhagen there is a Madonna, apparently by Luca della Robbia, in which the Mother carries the Child partially in her mantle. Andrea della Robbia also, in an altarpiece at S. Maria in Grado at Arezzo, spreads the Madonna's mantle to either side so as to protect the people — a composition known as the Madonna del Soccorso or Madonna delle Grazie; but a Madonna adoring and thus protecting the Child is not known to me in any other example. The two lily plants fill out the otherwise vacant space on either side.

The posing of the figure, in almost absolute profile, is also another characteristic of Luca. In the cantoria, in the Campanile reliefs, and in the marble reliefs for the altar of S. Peter, we find a number of figures so posed that the representation of one arm is dispensed with. The Madonna Dolorosa on the background of the Federighi Tomb is posed so nearly in exact profile that her left hand is barely indicated. At Wellington we have to examine the modelling very carefully before we discover the slight, very flattened relief which suggests the Madonna's right arm. In Andrea's reliefs the figures are almost invariably so posed that both arms and both hands are displayed.

I have already called attention to Luca's method of gathering a bunch of drapery beneath the Virgin's arm. This is here very boldly done, and I may add that the outline of the spreading mantle is not altogether natural but somewhat arranged for effect, although the body of the mantle is treated with simple, massive folds. The headdress and fillet across the brow, the waving hair, the features of the face and the hands are all such as we expect to find in Luca's work. The bed of hay upon which the Child rests and the lilies are indicative of Luca's observation of the forms of nature. It would

be interesting to trace the evolution of the lily as represented by Luca della Robbia, but this can hardly be done with certainty. In the lunette from the Via dell' Agnolo the lilies seem to have no pistils or stamens, nor do we see them in the lilies carried by S. Domenico in the lunette at Urbino (1449-1452). They appear to be lacking also in the lilies of the mosaic border of the Federighi Tomb (1455). On the other hand they are indicated in the apparently early frame of the S. Pierino lunette, and on either side of the Madonna on the exterior of Or San Michele, and best of all in this Wellington Adoration. These fine lily plants influenced Andrea della Robbia when he made the very beautiful Annunciation at La Verna, but such naturalism as is seen in the lilies at Or San Michele and at Wellington was not destined to survive. In some of the works of the Robbia school the lily degenerated in form so as to be scarcely recognizable.

The Madonna and Child and lilies are covered with a hard, white enamel, the other colors being a fine blue for the background, a gray blue for the sloping base, light blue for the irises, and violet for the eyebrows of the Madonna, yellow green for the hay, and dark green for the stalks of the lilies. The relief measures in height 0.70 m. and in breadth 0.60 m.

3-4. *Medallions representing Prudence and Faith* (Figs. 3-4).

In the Galleries Heilbronner, Paris, are two very remarkable medallions, representing Prudence and Faith. The owner admits that they came from Florence, but beyond that is silent as to their provenance. We are at once tempted to believe that there must be other virtues by the same hand, and that by searching we may discover Temperance, Fortitude and Justice, and perhaps also Hope and Charity. It so happens that the Cluny Museum contains two glazed terracotta medallions of the same general character. One of these, representing Temperance,¹ belongs in fact to the same series as those in the hands of Heilbronner; the other representing Justice is slightly larger and belongs to a slightly different series in which the Virtues were represented as winged. As both winged and wingless Virtues are found in earlier Florentine

¹ Cruttwell, *Luca and Andrea della Robbia*, p. 100; Marcel Reymond, *Les Della Robbia*, p. 49.

sculpture, we are not surprised to find both types here. It may be remarked that the provenance of the Cluny Museum medallions is not very certainly known. Du Sommerard, in his Catalogue of the objects exhibited in the Cluny Museum, declares on p. 214 that they were made for the Pazzi Chapel, and on p. 216 that they decorated a Pazzi palace near Florence. Cavallucci and Molinier call this statement in ques-



FIGURE 3.—PRUDENCE. HEILBRONNER'S, PARIS.

tion,¹ on the ground that the Pazzi Chapel preserves still its decoration complete. It may be observed, however, that the decoration of the Pazzi Chapel is not uniform, but heterogeneous. The four Evangelists in the spandrels of the dome are so nervously executed and so obtrusive in color, and stand

¹ *Les Della Robbia*, p. 63, note 1.

in such striking contrast to the calm and dignified Apostles on the walls as to puzzle every one who gives them even casual attention. The decoration of the Pazzi Chapel would be certainly more harmonious if we could remove the four Evangelists and put in their places the Temperance from the Cluny Museum and the Prudence owned by Heilbronner, with a Justice and Fortitude of similar quality. We are, therefore,



FIGURE 4. — FAITH. HEILBRONNER'S, PARIS.

tempted to consider the reliefs now in Paris as sample medallions designed for the famous Pazzi Chapel, but for some reason never put in place. So far as I could determine by rough measurements, they are of the proper size. The idea of decorating the dome of the Pazzi Chapel with the Cardinal Virtues may have inspired a similar decoration of the dome

of the Portogallo Chapel at San Miniato, and a change to the four Evangelists may have emanated from the evangelical reaction led by Savonarola. At the end of the fifteenth and in the early sixteenth century, the Robbians were no longer called upon to represent the Virtues, and in their decorations of domes at Venice, Prato, Siena, and Naples we find figured the four Evangelists. The style of the Heilbronner medallions, so far at least as the fruit frames are concerned, is very similar to that of the Pazzi *stemma* now in the Serristori palace, and to that of the René d'Anjou *stemma*, which once adorned the Loggia dei Pazzi at Fiesole, but is now in the Victoria and Albert Museum. Whatever may have been the immediate provenance or the original location of our medallions, their closest analogues are certainly with monuments made for the Pazzi family.

As for the authorship of these medallions, I have little hesitation in attributing them to Luca della Robbia. We may draw a very close parallel between the Heilbronner Prudence and the Temperance of the Cluny Museum. The diameter of each is 1.70 m., the frame mouldings are of an identical pattern so far even as to present the same number of eggs and darts; the band of fruit is in both cases composed of four divisions separated, and also subdivided, by cross bands and being actually constructed of eight segments coincident with these cross bands; in both cases the fruit, as in Luca's garlands, is asymmetrically distributed, and consists of pines, oranges, grapes, and quinces,¹ the very same fruit which he used in the garland surrounding the Pazzi arms.

In both cases we have wingless figures, glazed in white, with stippled blue eyebrows and light yellow irises, and set against a grayish blue ground. The background is broken into segments resembling those of the Pazzi Chapel Apostles, and the resemblance to the Pazzi Chapel medallions is still closer when we add the glories which radiate from the figures² and the clouds from which they emerge. The figures are of similar length, have finely formed heads and exquisitely modelled

¹ In the Cluny medallion the quadrant of oranges is subdivided into oranges and cucumbers.

² Visible on the originals.

hands. The hair, especially in the Temperance, is more minutely rendered than was customary with Luca, but in both medallions we see the little curl upon the cheek, which occurs in so many of Luca's Madonnas. In both cases the ear is distinctly represented — quite unusual with Luca — but on two of the Pazzi Chapel Apostles the ears are shown in full. The draperies are similarly complicated, showing the same shoulder capes and the folds of the mantle drawn across the body with evident regard to artistic effect. Luca's draperies are usually simpler than these, but in the Wellington Adoration we have already noted a similar tendency to elaboration.

The Cluny Temperance is attributed to Luca della Robbia by Du Sommerard, Cavallucci and Molinier, de Foville, Marcel Raymond, Miss Cruttwell, Madame Burlamacchi, and Venturi. Dr. Bode alone has expressed a doubt, assigning it to "some artist like A. Pollaiuolo."¹ But he has recently written me that he has retracted this opinion and now believes both the Cluny and the Heilbronner medallions to be by Luca della Robbia. If the Cluny Temperance be by Luca della Robbia, then the Prudence medallion is his also.

Once again Luca della Robbia represented the Cardinal Virtues — for the vault of the Portogallo Chapel at San Miniato. Here the Virtues are winged, but they are still three-quarter-length figures, rising from clouds and set against a blue background, and from them emanate rays of golden light. The Prudence in the Portogallo Chapel resembles the one we have been studying in many ways. She holds a similar mirror and a similar snake. Her features and the old man's head are enough like those of the Heilbronner medallion to be attributed to the same hand. Even the eyes are indicated in the same way in both medallions. As a tondo composition the Portogallo relief is possibly the superior, since the wings of the figure help fill the space left vacant on either side. The Portogallo drapery is less elaborate, and recourse is had to superficial gilding to bring out such details as the hair, the feathers of the wings, and the borders of the costume. But the Heilbronner medallion is superior in dignity and charm. It represents such a conception of Prudence as would make a

¹ *Florentine Sculptors of the Renaissance*, p. 83, note 1.

strong appeal to the head of a powerful Florentine family. The Portogallo Prudence is ascribed to Luca della Robbia by Vasari, and all historians of art follow this attribution. I am confident, therefore, that the general consensus of competent critics will find in the Heilbronner Prudence also a fine example of the workmanship of Luca della Robbia.

The medallion representing Faith is evidently from the same source as the Prudence. It is of the same size, its frame is similarly bounded by an outer egg and dart moulding; its garland of fruit also consists of pines and quinces and grapes and oranges asymmetrically arranged and still further subdivided by crossing bands; the inner moulding of the frame consists of a rope ornament, a detail possibly confined to the frames of the other Theological Virtues, Hope and Charity, in case there existed also such a series. Considerations of style link this medallion both with the Heilbronner Prudence and the Cluny Temperance. We have a similar three-quarter-length figure, emerging from clouds, with similar waving hair and similar features. The costume is even more closely related to that of Luca della Robbia's Madonnas, and exhibits the little bunch of drapery caught up under her left wrist. The chalice and cross are of the type used by Andrea Pisano in his representation of Faith in the Baptistery gates, but here they are subordinated to the beauty of the figure. Amongst all the representations of the Cardinal and Theological Virtues, where can we find nobler and more beautiful types than those which Luca della Robbia has established in these medallions?

ALLAN MARQUAND.

PRINCETON UNIVERSITY,
Dec. 26, 1911.

THE FRIEZE OF THE ERECHTHEUM¹

THE figures of the frieze of the Erechtheum, as has been stated in the text to Plates 31-34 of the *Antike Denkmäler*, Volume II, fall into two different groups in accordance with their size. The largest figures, the original height of which was about 0.65 m., are from the northern porch. The fragments which seem to belong to figures of this size are published on Plates 31 and 32. They are parts of about forty-seven different figures. In the fragments published on Plates 33 and 34 the remains of about thirty-seven different figures of the frieze of the cella are preserved.

Since the publication in the *Antike Denkmäler*, four additional fragments have been assigned with certainty to the frieze.



FIGURE 1.—GROUP FROM THE FRIEZE OF
THE ERECHTHEUM.

¹ Translated from the author's manuscript by H. N. F.

Of these one belongs certainly to the frieze of the main building:

1. The head of the crouching figure in the group, *Ant. Denk.* II, Pl. 33, No. 5. This head has been actually set in place

(Figs. 1 and 2);¹ it looks down and forward.

To the same frieze seems to belong:

2. Inventory 4861 (Figs. 3-8). Crouching woman, to left. Head, forearms, and left foot are lacking. Fully draped.² Identified by Professor Fowler.

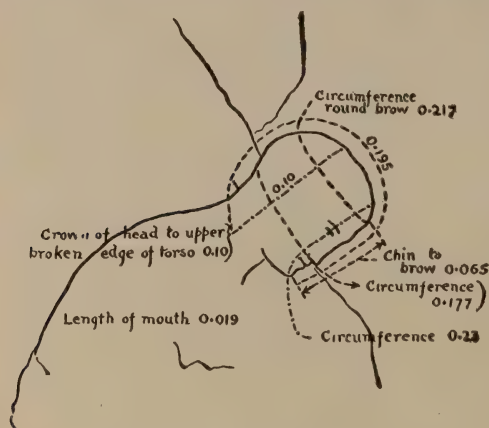


FIGURE 2.—HEAD IN FIGURE 1.

The number of figures belonging to the frieze of the cella, or main building, is therefore now about thirty-eight.

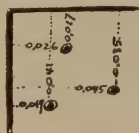
From the frieze of the northern porch comes without doubt:

3. A fragment of the larger series (Figs. 9-14),³ identified

¹ The scale of the Figures is approximately 1:4.5 of that of the original stones, the scale of the figures in *Ant. Denk.* II.

² Height, 0.255 m.; width, 0.215 m.; greatest thickness, 0.149 m. The dowel hole in the back agrees exactly with Block VII (south side of eastern portico), first hole counting from the left (the numbering of the blocks follows *Ant. Denk.* II, Pl. 34). Figures 7 and 8 show the broken dowel-cutting and also show a second cutting which was in the back of the figure, behind the head, and which must have formed a slot between the back of the marble and the face of the Eleusinian stone. This slot is 0.046 m. wide and 0.017 m. deep; its height remains uncertain. On the back of this fragment, in the angle formed by the vertical edge of the dowel-cutting and the lower (horizontal) edge of the second cutting previously mentioned, are three pinholes, 0.004 m. in diameter, arranged

in a triangle thus:
the centres of the



The measurements are perpendicular from holes to the edges of the cuttings.

³ Height, 0.0316 m.; width, 0.32 m. (practically the full original width); greatest thickness, 0.145 m. Figures 13 and 14 show in the bottom of the fragment, in the angle behind the broken drapery, a pinhole which runs obliquely



FIGURE 3.—FRAGMENT OF THE FRIEZE OF THE ERECHTHEUM.



FIGURE 5.—SIDE OF THE FRAGMENT, FIGURE 3.

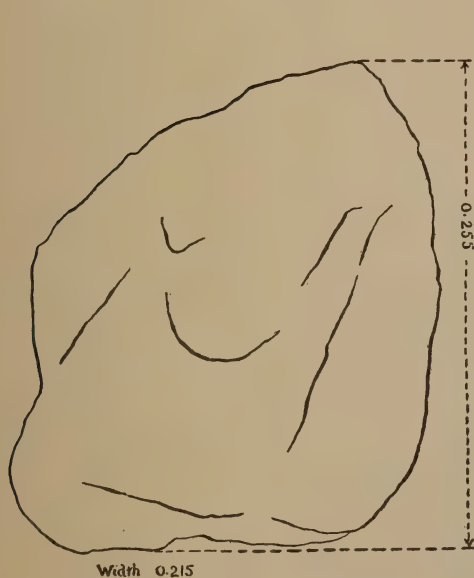


FIGURE 4.—SKETCH OF FIGURE 3.

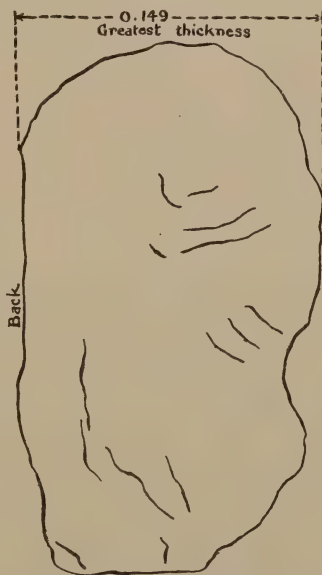


FIGURE 6.—SKETCH OF FIGURE 5.

by Professor Heberdey. A woman in full chiton and himation stands at the left of a *θρόνος*. This had arms, turned legs, and a piece of drapery fastened in front. On the seat lies a large cushion which is pressed down between the arms by the woman, the traces of whose left arm and left hand are clearly visible.



FIGURE 7.—SIDE OF THE FRAGMENT,
FIGURE 3.

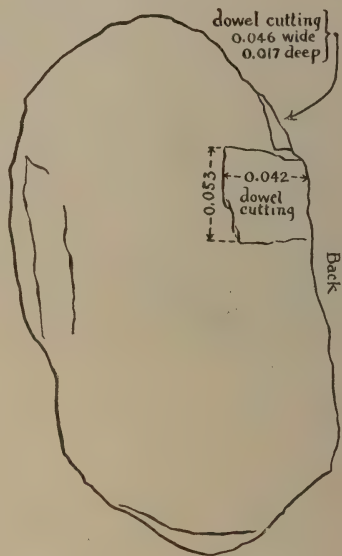


FIGURE 8.—SKETCH OF FIGURE 7.

The standing figure is broken away a little above the knees. The throne is very similar to that in *Ant. Denk.* II, Pl. 31, No. 17.

The female figure of this fragment raises the number of figures from the northern porch to forty-eight.

To the frieze of the northern porch belongs probably also:

4. Inventory 1133 (Figs. 15-18). Rear part of a pair of horses to left.¹ This may possibly belong to the same team with

through the marble to receive the pin for fastening the relief to the top of the architrave. The diameter of the hole at the bottom is 0.01 m. The centre of the hole is 0.049 m. from the back surface of the fragment, and is 0.167 m. from the left edge which appears in Figure 13.

¹ Height, 0.125 m.; width, 0.217 m.; greatest thickness, 0.125 m. In the left-hand broken surface are the remains of a broken dowel hole, the edge of which is visible in Figures 17 and 18. Its width is 0.04 m., its depth 0.03 m.



FIGURE 9.—FRAGMENT OF THE FRIEZE OF THE ERECHTHEUM.

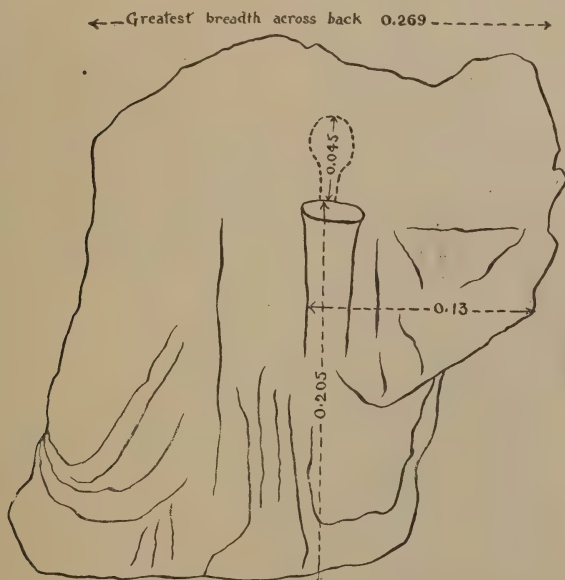


FIGURE 10.—SKETCH OF FIGURE 9.

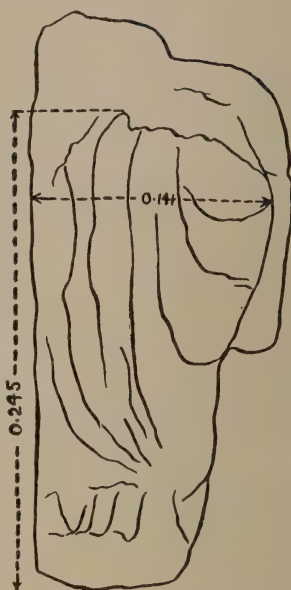


FIGURE 11.—SIDE OF THE FRAGMENT,
FIGURE 9.

FIGURE 12.—SKETCH OF FIGURE 11.

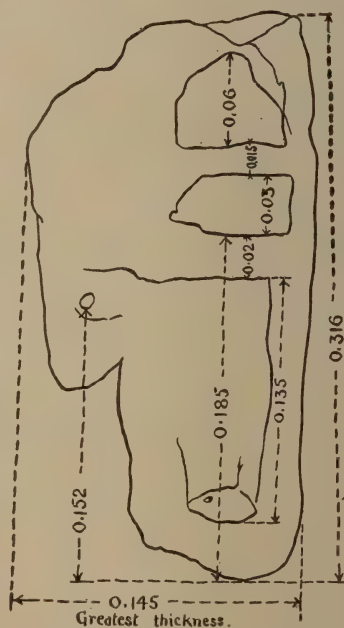


FIGURE 13.—SIDE OF THE FRAGMENT,
FIGURE 9.

FIGURE 14.—SKETCH OF FIGURE 13.

Ant. Denk. II, Pl. 34, No. 12; but differences in the chiselling at the back and in the cutting of dowel holes make this doubtful. The fragment agrees in scale with Pl. 34, No. 13, rather than with

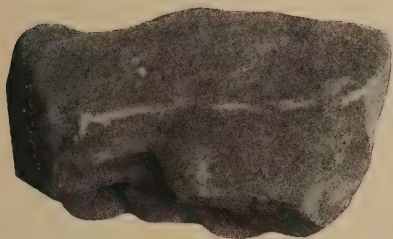


FIGURE 15.—FRAGMENT OF THE FRIEZE
OF THE ERECHTHEUM.

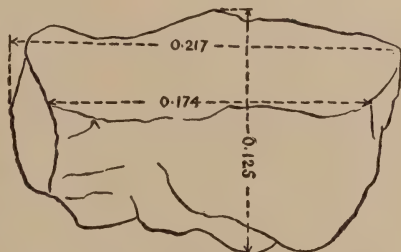


FIGURE 16.—SKETCH OF FIGURE 15.

Pl. 34, No. 11, the scale of which is certainly smaller than that of Pl. 34, No. 13. Accordingly it is to be presumed that the two teams galloping to left (Pl. 34, No. 13, and the new fragment, Inv. 1133), and also probably Pl. 34, No. 12, belong to the northern porch, whereas the team standing quietly to right

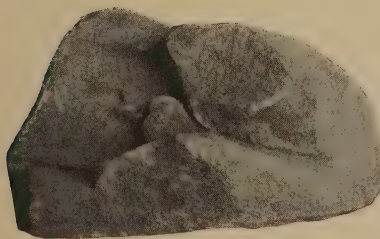


FIGURE 17.—FRAGMENT, FIGURE 15
FROM BELOW.



FIGURE 18.—SKETCH OF FIGURE 17.

(Pl. 34, No. 11) and also probably the fragment of a horse likewise standing quietly to right (Pl. 34, No. 10) are from the frieze of the main building. The three first-named fragments, Pl. 34, Nos. 12, 13, and Inv. 1133, since they cannot be combined with one another,¹ indicate for the northern porch either

¹ Mr. Hill is very properly of the opinion that Inv. 1133 cannot be joined with Pl. 34, No. 13; nor can Pl. 34, No. 13, and Pl. 34, No. 12, belong together; in either case we should have a team of five horses.

three four-horse teams or two four-horse teams and one pair of horses, all galloping toward the left.

In each of the two groups of figures, those in quiet attitude, either seated or standing, are comparatively numerous. Some of them, *e.g.* Pl. 31, 11 and 17, Pl. 33, 22 and 23, are evidently divinities, and others produce at least the impression of divinities. If these fragments are compared collectively with the deities represented on the eastern friezes of the Parthenon, the "Theseum," and the temple of Athena Nike, it becomes pretty certain that on the Erechtheum, both on the northern porch and on the cella, deities were represented as present in the capacity of participants or spectators at some event. The analogy of the friezes mentioned makes it probable that the deities of the frieze of the cella were on the eastern front.

THE FRIEZE OF THE CELLA

From what has just been said it follows with some probability that a large proportion of the figures to be ascribed to the cella was on the still existing blocks of the eastern frieze. Further examination of the fragments published on Pls. 33 and 34 leads to the following groups:

(a) *A small group of figures which are, or seem to be, distinguished from the others by their smaller proportions, and are therefore certainly to be regarded as human beings.* These are: one standing or quietly walking female figure (Pl. 34, 7), one walking female figure (Pl. 34, 2), one kneeling female figure (Pl. 34, 6), and one male figure standing with somewhat bent knees (Pl. 34, 4).

(b) *A group of figures which are to be regarded not as actors, but as persons present at some action, and probably for the most part as gods or heroes.* These are: eleven figures standing quietly erect, six of which (Pl. 33, 2, 3, 4, 6, 7, and the standing man of Pl. 33, 5) are male and five (Pl. 33, 15, 17, 18, 19, and Pl. 34, 9) are female; three figures in quiet walking posture, all female (Pl. 33, 16—two figures—and Pl. 34, 1); ten seated figures, two of which (Pl. 33, 1 and 9) are male, and eight (Pl. 33, 12, 20, 21, 22, 23, 24, 25, 26) are female; and the crouching woman, Inv. 4861 (Fig. 2). To the same group are probably to be added two standing female figures (Pl. 33, 14 and Pl. 34, 3) and three

running female figures¹ (Pl. 33, 10, 11,² 13, and Pl. 34, 8). This group contains then thirty figures, eight of which are male and twenty-two female.

(c) *A group of four male persons in action* (Pl. 33, 5, the kneeling one, and 8, Pl. 34, 5 and 11).

The number of persons in action is then, compared with that of persons not in action, very small.

If one turns now to the blocks of the frieze and compares the height of the dowel holes in them above the ground line with the height of the holes which exist in the backs of the figures, one finds that holes at a height of over 0.40 m. correspond with standing,³ walking,⁴ or running⁵ figures, and those at a height between 0.30 and 0.35 m. with those of seated⁶ figures. The holes at a height between 0.35 m. and 0.40 m. seem to belong to figures which stand not quite erect.⁷ In the erect

¹ Possibly spectators hurrying to the scene or messengers hastening to report some event.

² Pl. 33, 11 and Pl. 34, 8 might belong to the same figure.

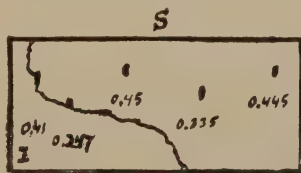
³ Pl. 33, 15 (0.402 m.), 17 (0.42 m.). ("33, 15 fits E, II, 4 (Block II, east portico, fourth hole counting from the left) and E, V, 1 well. 33, 17 can be fitted to S, I, 1 (south frieze), and E, III, 1." — B. H. HILL.)

⁴ Pl. 33, 16 (0.42 m.). ("33, 16 fits nowhere well in south or east." — B. H. HILL.) I am inclined to doubt this statement, unless indeed Mr. Hill has tried to fit the fragment to the blocks of the frieze; for we have several dowel holes at the height of 0.42 m.: E, VII, 2; E, V, 3; and also several at the height of 0.41, 0.425, and 0.43 m.

⁵ Pl. 33, 10 (about 0.435 m.), 11 (about 0.42 m.).

⁶ Pl. 33, 23 (0.335 m.), 24 (0.30–0.31 m.), 26 (0.315 m.). ("33, 20 can be fitted to E, V, 7, better in E, IV, 2; 33, 24 could be fitted at E, VI, 4; E, VI, 3 is also possible; 33, 26 fits E, II, 1 well, and E, V, 4 passably." — B. H. HILL.) I cannot understand Mr. Hill's statement concerning 33, 20, for there is, according to my observation, no sign of a dowel hole in this fragment. 33, 23 fits S, I, 4 = S, I, 3, *Ant. Denk.*, Pl. 34. There are five dowel holes — instead of four — in S, I, and one in E, I (S, I being the south face and E, I the east face of the S.E. corner block of the frieze). S, I, 4 is the second westward from the corner. ("The dowel hole I number 2 does not appear in *Ant. Denk.* II, Pl. 34, I now observe. No. 2 is 0.53 m. to left of No. 4, and 0.247 m. to 0.290 m. up from the ground." — B. H. HILL.)

⁷ Pl. 33, 5 (0.35 m.). ("33, 5 can be placed at S, I, 4, though it fits there only passably. It can be placed nowhere else in the existing east or south frieze." — B. H. HILL.)



standing figure (Pl. 33, 19), the dowel hole is remarkably low, only about 0.32 m. above the ground line. This and a similar exception among the figures of the northern porch¹ are isolated, to be sure, but they warn us that we cannot determine with absolute confidence from the position of a dowel hole in a block of the frieze the posture of the corresponding figure.

Now if one observes the distances of the dowel holes in the blocks from one another, it is noticeable that the holes in the middle block (IV) of the eastern front, which is still *in situ*, are comparatively far apart. In block III, which is at the left of the middle, and probably, to judge by its length, belongs there, the holes are considerably nearer together and at approximately equal distances from one another. In block V, which is *in situ*,² the distances are less but less regular.

From these observations in regard to the heights of the dowel holes and their distances from one another, it follows that something exceptional must have been represented on the middle block (IV).³ The first (0.365 m.) and third (0.39 m.) holes from the left in this block indicate figures which do not stand quite erect, and are therefore engaged in some action, or figures of somewhat smaller size. The second hole is placed remarkably low, even for seated figures. On the other hand, its height (0.27 m.) corresponds remarkably well with that of the dowel hole in the back of the horse that belongs to the team, Pl. 34, 11. If one restores the legs of this horse, the dowel hole is about 0.27 m. from the ground line. One is therefore tempted to assume that the team was here in the

¹ Pl. 31, 8. In this seated figure the dowel hole is at a height of only about 0.165 m.

² "There is no doubt that the blocks E, I-VI belong as shown in Pl. 34. The missing left end of E, II and right end of E, VI have been found, and blocks E, I-V are restored to their original positions, all indications given by clamps, dowels, and minor cuttings agreeing perfectly. The new part of E, II has no dowel. There were, I think, traces of a dowel in the break in E, VI (about as high as E, VI, 5) — it is now hidden by cement; no dowel north of the break. The length of the block is now 1.906 m., and we have 10.896 m. out of the original 11.126 m. of the length of this east frieze." — B. H. HILL.

³ (The heights of the holes in E, IV, according to Mr. Stevens's measurements, are: first hole, 0.365 m., third hole, 0.395 m., left-hand low hole, 0.265 m., right-hand low hole, 0.319 m. — H. N. F.) ("In *Ant. Denk.* II, Pl. 34, E, IV, 4 and E, IV, 2 are wrongly put at the same height." — B. H. HILL.)

middle of the east front. In this case, to be sure, the team would have been fastened with only one dowel and the man who stood behind it was not fastened on separately; for the holes to the right and left of the one which is 0.27 m. above the ground line are too far away to have served in fastening any part of the group. On the other hand, these two dowel holes are so near the outer edges of the group that very little room is left for the figures which were held in place by the dowels.¹ Now it is not impossible that the team was fastened on by means of a single dowel,² and—especially since the extension of the group toward the left is doubtful—there would, in case of need, be room for a figure standing close to the car and for another busied with the foremost horse; nevertheless, it cannot be positively affirmed that the existing team really belongs in this place, though a very similar group of slightly less extent to right and left from the dowel may very well have been fastened by E, IV, 2.

The dowel holes in the block (III) to the left of the middle, which are all, with one exception, at a height of more than 0.40 m., indicate that upright standing figures were here attached. Of these the four at the right, nearest the middle, stood pretty near one another. At the left side of the block the greater distances of the dowel holes indicate erect figures in moderate motion.

On block V the three middle holes probably served to secure two quietly standing and one seated figure. The figures corresponding to the holes at the left probably took part in the action in the middle of the frieze. At the right-hand side of the block the low (0.265 m.) position of the dowel hole and the great distance between it and the nearest dowel hole of block VI justify the assumption of a second team of horses.

¹ Mr. Hill estimates that the group extended *ca.* 0.52 m. to the right (measuring to the breast of the foremost horse) from the dowel hole preserved in the back of the group. If the car wheel were represented as a full circle, the left-hand limit of the group would be about 0.50 m. from the dowel hole. But if the wheel were represented in perspective, *i.e.* were actually carved as an ellipse, the left-hand edge might be considerably nearer the dowel hole.

² The dowel hole is exactly in the middle of the group. Moreover, the group of the two standing women (Pl. 33, No. 16) has only one dowel hole, which is placed pretty high (0.42 m.) in the back of the left-hand figure.

In block II the dowel holes II, 2, 4, 5, 6, 7 indicate upright figures in moderate motion. I venture no hypothesis concerning the purpose of the two holes close together, II, 8 and 9, or concerning the two extreme ends of the entire eastern front.

The middle of the frieze of this front lies between the dowel holes IV, 1 and IV, 2. If the conclusion that the hole IV, 2 served to fasten a team is correct, then the team occupied exactly the middle of the scene.

Among the figures in the attitude of spectators the following may with some certainty be regarded as divinities :

The female figures Pl. 33, Nos. 14, 15, 16 (Demeter and Cora?), 17 (Aphrodite?¹), 18 and 19 (Charites?), 20, 21, 22 (Ge? Themis?²), 23 (Kourotrophos?³), 24, 25, 26; Pl. 34, 1, 3, 9; and probably, on account of similar representations on other monuments, the running maidens (Horae?), Pl. 33, 10, 11, 13, and Pl. 34, 8. The remains of female figures, Pl. 34, 2 and 7, can hardly be considered in connection with the east front on account of their small scale.

Among the male figures, the following may be regarded as spectators :

Pl. 33, 1-7 and 9. As to 1 and 9, which are on a smaller scale than the seated goddesses, I am doubtful whether they belong to the assembly of gods on the east front at all and should not rather be assigned to the north or the south side; but it may be that their state of preservation produces a false impression of a smaller scale. The nude man, Pl. 33, 6, and the two men with nude bodies and garments draped about their hips like aprons, might, like the man on Pl. 34, 11, have stood by the horses. The men wrapped in mantles, Pl. 33, 2 and 3, seem to belong among the gods who are looking on. The man leaning on his staff, who stands behind the kneeling youth (Pl.

¹ See Kekule, *Über eine weibliche Gewandstatue aus der Werkstatt der Parthenon-Giebelfiguren*, Berlin, 1894. With Kekule (*Die griechische Skulptur*, 21 Ed., p. 107), I consider it likely that the statue — which he is probably right in regarding as Aphrodite — served as a model for the maker of our figure.

² On the Omphalos see E. Maass in *Jh. Oest. Arch. I.* XI, 1908, pp. 10 ff. On Themis see Preller-Robert, *Griechische Mythologie*, p. 211, 2, and pp. 475 ff.

³ See Preller-Robert, *l.c.*, pp. 636, 1 and 764, 2.

33, 5), belongs without doubt, on account of his connection with the youth, among the mortals.

The number of the figures engaged in the action is, as has been remarked above, very small in comparison with that of the persons, mostly female, who are to be regarded as spectators. I will enumerate them in order in the manner in which the figures mentioned in the building inscription are there enumerated, and at the same time I will express my interpretation of the individual fragments by words in square brackets []:

1. Pl. 33, 8. Nude man who stretches out his left leg or sits upon some object and [holds a lance in his raised right hand].

2. Pl. 34, 5. Nude man holding with his left arm a mast with yard and sail.¹

3. Pl. 34, 5. Kneeling man clad in a himation which leaves his body free. He is occupied [with some object in front of him].

4. Pl. 33, 4. Man standing with bent knees. The upper parts are nude. The himation has slipped down upon his thighs. Both arms must therefore have been occupied.²

5. Pl. 33, 12. Figure sitting [in a box wagon]. The lower parts are covered by a himation.³

6. Pl. 34, 6. Girl in chiton and cloak, who has sunk down by the base [of a figure of a deity].

It seems to me advisable to put together here all the mate-

¹ That the previous interpretations of this fragment are untenable is made clear in the text to Pl. 34, 5. On the yard with furled sail, cf. the representation on a phiale in Berlin with glazed relief (Furtw. 3882, *Annali*, 1875, p. 290, Tav. d'agg. N (Klügmann). On the manner of fastening the sail to the yard see Kekule, *Die Antiken Terrakotten*, IV, 2, Pl. XXXII. Whether the man of our fragment was engaged in raising or lowering the mast or whether he was lying as a shipwrecked person upon the ruins of a ship — in *Ant. Denk.* II, Pl. 34, 5, it is assumed that he is lying down — I do not attempt to determine.

² Perhaps he took part in carrying the mast.

³ On the feet which disappear in the box of the wagon, cf. *Compte rendu*, 1863, Atlas, II, 4 (2255), and Gerhard, *Auserl. Vasenb.* Pl. 217. The object resembling a handle, which is represented in low relief on the box, may belong to the frame of the wagon (cf. Gerhard, *Auserl. Vasenb.* Pl. 75, 76); the four-cornered remnant above was perhaps the point of attachment of the upper edge of the wheel, which was, in that case, carved free from the background. A similar trace of a wheel is preserved on the wagon in 34, 11 (cf. the text in *Ant. Denk.* p. 14, 11). Another possibility is mentioned below.

rial available for the interpretation of the frieze of the cella. I therefore add here the enumeration of the figures mentioned in the building inscription, beginning with the group which probably stood on the north side and, if the space from the northeast corner of the cella to the north porch is divided into four equal parts, about in the second quarter from the east.¹

¹ Robert (*Hermes*), XXV, 1890, pp. 431 ff.) has rightly concluded from *I. G. I.*, 324 *a*, col. II, ll. 31–34 (payment for removing scaffolding from the north wall after the figures have been fastened to the frieze in the seventh prytany of 407–408 B.C.), that the sculpture for which 3315 drachmas are paid in the same prytany belonged to the north side of the temple. We might add to his arguments the fact that, according to the spacing indicated by the dowel holes for the east frieze, the 55 (or thereabouts) figures for which 3315 drachmas would be paid would be just about the right number for the length of frieze from the north porch to the northeast corner of the building. The length of the frieze of the north side, from the northeast corner to the roof of the north porch, measures 61 Attic feet on the upper and 53 Attic feet on the lower edge. Kolbe's combination (*Ath. Mitt.* XXVI, 1901, pp. 223 ff.), which proves the date 408–407 for the accounts of *I. G. I.*, 324, shows also that the sculptures named in 324 *b* belong with those in 324 *c* and cannot be assigned to different prytanies, as Robert wishes. Dr. Frickenhaus also, as he informs me, believes that the sculptures of the inscription *d*, col. II and *b*, col. I (which Kolbe, *Ath. Mitt.* XXVI, 1901, p. 228, put together), and *c*, col. I belong in the same prytany, in which 55 figures in all are paid for. In his opinion also these fit well on the northern wall (about 15 m. without the north porch), from which the scaffolding was removed at the same time. But he calls attention to the fact that the section relating to the *πρυτανίαι* is not entirely preserved; it is therefore possible that other scaffolding also was removed at that time. If Robert's really obvious conjecture is nevertheless correct, then, as Dr. Frickenhaus very properly observes, because the enumeration seems to proceed from left to right (cf. the other representations of harnessing to wagons), the figures with the team of mules, mentioned in fragments *d*, II and *b*, I, must have been nearer the northeast corner than the group, mentioned in *c*, I, of persons harnessing horses to a wagon. The enumeration of all the figures occupied, by Frickenhaus' calculation, about 80 lines. Of these 13 lines are present in *d*, II and *b*, I, and 23 lines in *c*, I. If we follow the inscription and reckon one figure for every 60 drachmas, there are accounted for in these lines: in *d*, II and *b*, I, about $9\frac{1}{2}$ figures, for which about 550 drachmas are paid (the reasons for this assumption will be given in the notes below); in *c*, I, about $14\frac{1}{2}$ figures, for which (including the stele, which was delivered later) 867 drachmas were paid. The $14\frac{1}{2}$ figures occupied then the quarter of the northern frieze next the northern porch. Since the beginning of the enumeration between *a*, II and *d*, II is wanting and there is a gap between *b*, I and *c*, I (the two gaps amount to about 40 lines), it may be assumed that the $8\frac{1}{2}$ figures in *d*, II and *b*, I were about in the second quarter counting from the left.

1. *d*, II, ll. 9-11. A person who is throwing, setting, or laying something upon something or pushing something into something.¹

2. *d*, II, 12, 13; *b*, I, 2-4. A youth who is busied with some object, a second youth who is writing (painting, drawing, etc.), and a third standing beside him.²

¹ The letters αλλ at the beginning of l. 11 are read by Kirchhoff as part of παλλαδίωι. This restoration seems to me less probable than to assume that the letters in question are part of a verb and to restore the line as follows :

. β]
 ἀλλ[οντα ΠΔΔΔ Πραχσίας ἐμ Με
 λττει [χοικὸν

Another possibility is βάλλοντας ΗΔΔ; in the former case not only the man but also the object with which he is occupied would be included in the reckoning, in the latter case two figures. I consider the former more probable, since the figures are always listed separately. The letters ανσ at the beginning of l. 10 may perhaps be a remnant of the name of the object. The following is offered merely as an example of a possible restoration :

. Φυρόμα]
 9. χ[ος Κηφισιεύς τὸν τὴν ἄμαχσ]
 10. αν σ[. β]
 11. ἀλλ[οντα

One of the possible readings instead of ἄμαχσαν is κεφαλαν. I mention this possibility because the youth with the mast, the yard, and the sail under his arm (*Ant. Denk.* II, Pl. 34, 5) brings to mind the peplos of Athena, which was fastened in the Panathenaic procession as an ἱστῖον to a frame consisting of ἱστὸς and κεφαλα (see the literature in Michaelis, *Parthenon*, pp. 329, 165-170; O. Benndorf, 'Beiträge zur Kenntniss des attischen Theaters,' *Zeitschr. f. Oesterr. Gymnas.* XXVI, 1875, pp. 70 ff.).

² I assume the following restoration :

11. Πραχσίας ἐμ Με]
 12. λττει [χοικὸν τὸν νεανίσκον]
 13. τὸν τὸ σ[.
 14. γρ]άφοντα νεα[νίσ]κον
 15. [καὶ τὸν πρ]ο[σεστ]ῶτα ἡαν[τ]ῶι Η
 16. [Η Ηλασος] ἐν Κολλυτῶι χοι[κὸν

In ll. 15-16 Η^π is possible instead of ΗΗ, in which case the youth writing and the one standing beside him must be reckoned as one and one-half figures. This would be conceivable if the youth writing were kneeling before the other, as on Pl. 33, 5. However, I consider ΗΗ more likely, as the ὀπισθοφανής mentioned in *c*, I, 5 is also reckoned at 60 drachmas. Then the total would include three persons at 60 dr. each and an object at 20 dr., the name of which must have stood in l. 13 and must have begun with the letter Ξ.

3. *b*, I, 5, 6. An object¹ and a wagon for travelling or for freight.

4. *b*, I, 7-9. A woman beside or on the wagon and the two mules before the wagon.

The second group of figures is recorded in *c*, I:

1. L. 1. A male figure holding a spear.

2. Ll. 2-3. A youth beside a breastplate.

3. L. 6. A horse and a man who stands behind it and strikes its side.

4. Ll. 7-9. A wagon, a youth, and two horses which are being harnessed.

5. Ll. 10-11. A man leading a horse.

6. Ll. 12-15. A horse, a man striking it, and a stele added later.

7. L. 16. A man who holds the bridle.²

8. Ll. 18-20. A man standing beside an altar and leaning on his staff.

9. Ll. 21-22. A woman who has fallen or is kneeling by a little girl.

¹ 5. . . . κ]αὶ τὸν ἀμαχσαν πλ[ῆν

6. τοῖν ἐμύβν]οιν Π Δ Δ Δ Δ Ἀγαθά-

7. [ορ

¹ In the gap at the beginning of 1. 5 six letters are wanting. Robert (*l.c.* p. 439) thought of τὸ ἔδος in connection with his hypothesis that the whole scene represented the consultation of an oracle. It seems to me more likely that, if τὸ ἔδος is really the correct reading, the consecration of a statue of a god was represented. The statue need not have been in the wagon, as Weissmann (*Beiträge zur Erklärung und Beurteilung griechischer Kunstwerke*, Progr. d. humanistischen Gymnasiums in Schweinfurt, 1903, pp. 34 f.) thinks the price shows. The price of 30 drachmas would be as proper for a simple statue on an unadorned base as for the girl in *c*, I, ll. 21-22. But other restorations besides τὸ ἔδος are possible, e.g. τὸ σῆμα or τὸ ἔρμα, which might designate the support that was intended to hold the ἱστός and the κεφαλή (cf. the representation on the *piombo*, Benndorf, *l.c.* Fig. 51). "Ἐρμα, by the way, denotes also the supports which are put under ships when they are dragged up on land. It may be that in one and the same piece of work the comparatively easy execution of the implements, etc., was entrusted to another workman than the more difficult execution of the figure. In view of this possibility, I do not consider the restoration τὸ γύναι[ον τὸ ἡπὶ (instead of πρὸς, Kirchhoff) τῇ ἀμ]άξῃ in *b*, I, 1. 8 inadmissible. Schöne (*Griech. Reliefs*, p. 3) also thought ἐπὶ probable.

² Robert, *l.c.* pp. 432 ff., has shown that the figures 1-7 belong to a harnessing scene and has identified No. 4 with Pl. 34, 11. I consider his interpretation correct, though I do not follow him in all details. Pl. 34, 10 might be the remnant of No. 3 or of No. 6.

From the groups mentioned in the inscription and the remains of the figures engaged in action one derives the impression that various events were represented in the frieze of the main building, not one action, as in the frieze of the Parthenon, nor a few actions with a great number of participants, as in the battles of Greeks with Persians, Amazons, etc. Separate acts of a cult¹ are also hardly to be considered, though it is very tempting to connect the man with the mast and yard with the offering of the *πέπλος* at the Panathenaea. Figures like Pl. 34, 6, the girl who flees for refuge to a statue of a deity, have no place in scenes of cult, nor has the separate scene in which a war chariot is being harnessed. This scene cannot well have formed part of a series of similar representations, in the manner of the frieze of the Parthenon; this is precluded by its position—the right-hand end of the northern frieze, which abuts upon the northern porch—and by the group of three figures beside an altar, which terminates the frieze at this point.

I agree with Robert in thinking that separate scenes from a cycle—or several cycles?—of myths were represented. But these scenes are not necessarily taken from the myths connected with Erechtheus. Why should not, for example, as in the metopes of the northern side of the Parthenon and in one of the pediments of the Argive Heraeum, scenes from the sack of Troy have been represented? The girl fleeing for refuge to an idol (Pl. 34, 6) and the man with mast and yard (Pl. 34, 5), indicating that a ship was represented, would fit in such a connection, though I do not wish to express any definite conjecture concerning the content of the composition.

THE FRIEZE OF THE NORTHERN PORCH

If my judgment concerning the size, the difference in workmanship, and the other circumstances that are to be considered is correct, fragments of forty-eight different figures and of three galloping teams which once adorned the frieze of the northern

¹ Weissmann, *l.c.*, whose conjectures are impossible, if for no other reason, because he combines figures from the frieze of the cella with figures from the northern porch. Although his treatise was published in 1903, Weissmann does not seem to be acquainted with the publication in *Ant. Denk.*, which appeared in 1899.

porch are preserved. There are (*a*) twenty-two figures standing quietly erect, three of which (Pl. 32, 10,¹ [11²], 17, 23) are male and nineteen (Pl. 31, 1, 14, 16, 18, 19, 20; Pl. 32, 2,³ 7, 8, [9⁴], 14, 15, 16, 18, 19, 20, 21, 22, 24, 29, [32⁵], are female; three quietly walking female figures (Pl. 32, 12, 30, 31); and nine seated figures, two of which (Pl. 32, 25 and 33) are male and seven (Pl. 31, 8, 9, 10, 11, 12, 13, 17) are female. These thirty-four figures, like the similar figures of the frieze of the cella, are to be regarded as persons who are not engaged in action, but are merely present at an action, and for the most part as gods or heroes. To the same group are probably to be added: three female figures moving with a dancing step (Pl. 31, 6, 7; Pl. 32, 13), and six running figures (three to the left and three to the right), all female (Pl. 31, 2, 3, 4, 5; Pl. 32, [1⁶], [3⁷], 4, [5⁸], 6).

The total number of this group is then forty-three, of which five are male and thirty-eight female.

(*b*) Five female figures in action, two of which (Pl. 31, 15 and the figure at the left of a throne) stand in a bent posture and three (Pl. 32, 26, 27, 28⁹) are kneeling.

In the classification of these figures, as in that of the remains of the frieze of the cella, the very small number of figures engaged in action is striking. Moreover, the great proportion of female figures (forty-three to only five males) is remarkable. Since this proportion can hardly be due to chance, we must conclude that on the northern porch one or more actions were represented in which the females among the Attic deities and heroes were more strongly interested than the males. Now we must examine more closely the dowel holes in the blocks of the frieze.

Of this frieze six blocks (really only five stones) are still *in situ*: on the eastern side four and the corner block (narrow side), on the northern side the same corner block (long side) and one other. These blocks and the fragments published on

¹ Seated?

² Elbow, belonging perhaps to Pl. 32, 23. ("I too find it very possible that 32, 23 belongs with 32, 11." — B. H. HILL.)

³ Standing? Running?

⁴ Seated? Belonging to Pl. 31, 11?

⁵ Belonging to Pl. 31, 18?

⁶ Belongs perhaps to the frieze of the cella.

⁷ Belongs perhaps to Pl. 31, 5.

⁸ Belongs perhaps to Pl. 31, 2 or 3.

⁹ The posture is not quite certain.

Pl. 34 give about 21 m. of the surface of the frieze now existing. Since the entire length of the frieze on the eastern, northern, western, and southern sides was about 25 m., the missing portion amounts, in round numbers, to 4 m. This missing portion must be assigned for the most part to the western and southern sides.¹

In the existing blocks and fragments of blocks there are about sixty dowel holes.² That would be on an average 2.88

¹ (The northern porch is now restored, and the blocks of the frieze are, so far as they are preserved, set in the positions assigned them in Dr. Pallat's publication in the *Antike Denkmäler*. Block XIII is therefore on the western side. These blocks were already in place and covered by the cornice blocks before Mr. Stevens or I could examine them in 1903. There is, however, hardly the possibility of a doubt that they are correctly placed, for Mr. Balanos, who had charge of the restoration, was very careful and thorough. Moreover, as Mr. Stevens writes, "It could not have been very difficult for Mr. Balanos to get these frieze blocks back in their right places. The dowels which held them to the architrave blocks were checks, as were also the dowels which held the cornice blocks to the frieze blocks. All the cornice blocks, except a portion of one, are now back in place, and not only the dowels into the frieze blocks had to fit, but the cramps of adjacent cornice blocks had to fit, and cornice blocks which went under the pediment were even dressed to receive the pediment (tympanum) stones." "The cramps which hold the frieze blocks together would be a still further check. . . . The cramps of the frieze blocks had to fit not only in the case of the adjoining blocks (of the frieze) but also the backing blocks." Mr. Stevens suggests that the eastern side of the northern porch is the fitting place for the most important and elaborate part of the frieze, since it was conspicuous from the stairs on the outside of the northern wall of the building, while the close proximity of the wall of the Acropolis made it difficult to obtain a good view of the frieze of the northern front of the porch; and it is precisely on the eastern side that the evidence of the dowel holes indicates the greatest number of figures. — H. N. F.)

("The frieze of the north portico stands as indicated in *Ant. Denk.* II, Pl. 34, except that block XI is now complete (and has two dowel holes) and a block 1.10 m. long, which looks exactly like the largest unplaced fragment in Pl. 34, has been set in the left half of the space." — B. H. HILL.) It seems to me rather, judging by the photograph, as if two pieces — the third from the left in the row of unplaced blocks in *Ant. Denk.* II, Pl. 34, and a second fragment without dowel holes — had been used to complete block XI and the block mentioned by Mr. Hill, if I understand him correctly, "the largest unplaced fragment on Pl. 34," had been set on the south side in the last place but one from the left.

² Since Mr. Stevens's investigations the number can perhaps be given more accurately. The double hole in block XIII at the left, below, I have reckoned as one hole. (The exact number of dowel holes of the usual size is fifty-nine. There are in addition eleven small holes. One or two additional fragments, which cannot be placed, also contain dowel holes. — H. N. F.)

holes to a metre. For the missing 4 m. of frieze we should have to reckon eleven to twelve (11.44) additional holes, making in round numbers seventy for the entire frieze. If we deduct the small square or round holes in blocks IX, X, and XIII, and in one of the fragments, which may possibly have served for fastening attributes or the like, there remain about sixty-two holes of the size and shape of those in the figures. Approximately this number of figures was then contained in the frieze of the northern porch. According to the calculation above, forty-eight of these, that is, even if the number of dowel holes in the missing portion has been placed too low, the greater part of the original number, are preserved in fragments.

Now if we observe the grouping of the dowel holes, and at the same time bear in mind what has been said above about the disposition of the corresponding holes in the figures of the frieze of the cella (which is equally valid for those of the northern porch), it becomes evident that on the *eastern* side of the northern porch, to right and left of the middle block (III), erect standing figures were attached in comparatively large number, with some seated figures among them. In the middle block itself the arrangement of the dowel holes is essentially different. Here the three very low holes, 1, 3, and 4 (counting from the left), are noticeable. Of these, 3 and 4 would, in respect to their position, fit without difficulty in a representation of the birth of Erichthonius.¹ In the position of 3, Gaea might have been represented, in that of 4, Cecrops, whose serpent tail would then have been extended in the comparatively large space between 4 and 5. Hole 2 would then have to be assigned to Athena. For dowel hole 1 (unless one wishes to regard it as a hole placed exceptionally low, like that of Pl. 31, 8) a very low figure, perhaps seated on a rock, possibly one of the daughters of Cecrops,² could be assumed. Then the group published on Pl. 32, 27, for which the distance of the two holes 1 and 2 would suit,³ could be assigned to this position. The female

¹ As to the representations of the birth of Erichthonius, v. Heydemann, *Ann. dell' Ist.* 1879, p. 114, n. 2, and Sauer, *Das sogenannte Theseion*, pp. 57 f.

² Cf. *Compte rendu*, 1859, Pl. I, below at the right.

³ Other groups, to be sure, were, as has been seen above, fastened with only one dowel. But the two figures of the group in question might, because they were perhaps connected only at the bottom, have been fastened separately.

figure standing at the right might, to judge by the movement and clothing, be Athena. The kneeling girl would then presumably be Pandrosus, whom we may think of as ready to receive Erichthonius from Athena. The goddess would then be turned toward the right, as on the reliefs, not, as on the vase paintings, toward the left.

But it is possible also to think of her as turning toward the left. Then the order, from left to right, would be: 1, Gaea; 2, Athena; 3, Pandrosus; 4, Cecrops. This order has in its favor the fact that the distance between Gaea and Athena, which on the other assumption seems rather too small, would be greater. The group in Pl. 32, 27 could then, of course, not belong here. But in Pl. 32, 26, if it is correctly explained in the text, we have the remains of a similar group turned toward

Judging by the distance of the dowel holes in the block, the hole corresponding to hole 1 must have been in the kneeling figure not far above the break (0.21 m. above the ground line), and the hole in the standing figure must have been (as elsewhere in standing figures) in the back (0.42 m. above the ground line).

"The top of the epistyle being broken away under No. III, 1 and 2, it is impossible to confirm or reject the suggested placing of 32, 27 here, as might probably have been done were the epistyle preserved, since the plug hole in the bottom of 32, 27 would have to find a corresponding hole which would let the two figures reach the dowels 1 and 2 suitably." — B. H. HILL.

In the text to *Ant. Denk.* II, Pl. 32, 27, I have called the hole in the under side (like other holes of the same kind in other figures) modern, believing that it served to fasten the figure upon a base, perhaps immediately after its discovery. Mr. Hill thinks these holes, with the pins, or plugs, in them and the remnants of lead, are ancient. He writes: "My present opinion is that the iron pins run with lead in the bottom of certain figures of the frieze are not modern, and that they once actually served to hold the figures to the top of the epistyle. Whether they are *original*, or belong to ancient repairs, I should hesitate yet to say. Some of the fragments in which we find the pins are (now at least) altogether too insignificant to make this painstaking method of setting them up for exhibition at all likely. The pin in 31, 17 was certainly placed long before the figure was set in the plaster pedestal in which it stood until a few years since. In 32, 27 a bit of the pin still remaining deep in the hole is badly rotted (not rusted) in a degree paralleled in many ancient dowels and clamps, but hardly possible to iron a century or less old. The pins in the figures correspond in size and character with those preserved in the top of the epistyle. Most of the fragments preserved having the pins or holes for them belong to the north portico, while a majority of those without pins are on the smaller scale of the main building. This corresponds perfectly with the fact that the epistyle of the main building, so far as preserved, has very few pins, while that of the north portico has many." In view of these considerations, I also now find it difficult to believe all the pins modern.

the left (at any rate, the remains of a kneeling figure turned toward the left) which might belong here. The distance between holes 2 and 3 would do for two figures placed close together, after the manner of Pl. 32, 27, each of which was fastened in the back. Cecrops would then remain in the same place.

To right and left of this group (if the assumption of a dowel hole in the right-hand edge of block II is correct)¹ there would have been two seated figures, the one at the left presumably turning toward the right, the other in the opposite direction. Toward the sides would then be the other spectators, probably for the most part goddesses, those at the right standing, with one exception, and those at the left standing and seated.

Among the figures now existing, Pl. 31, 16, in which the dowel hole is about 0.49 m. above the ground line, may have belonged to this circle of spectators and may have had its place on block IV at hole 3 or 7 (from the left); so, too, Pl. 31, 18, in which the dowel hole was about 0.42 m. from the bottom, may have been on I, 3, and Pl. 31, 19, with its dowel hole at a height of 0.46 m.—0.47 m., on I, 4 or II, 1 or IV, 1, 4, 6. Perhaps Pl. 32, 16 belonged also to this side of the north porch, in the scene of the birth of Erichthonius assumed for the middle. I formerly regarded this fragment as the upper part of the body of a figure clad in chiton and himation (see text to *Ant. Denk.* II, Pl. 32, 16); but what then appeared to me to be the remnant of the himation now looks to me more like a cloth held by two corners;² and the lack of any indication of the breasts speaks against the interpretation as the upper part of the torso of a woman. I am therefore now inclined to believe that the fragment represents the middle part of a woman who is holding a cloth spread out, as Athena does in various representations of the birth of Erichthonius.³

¹ "Dowel hole in right edge of No. II seems sure." — B. H. HILL.

² Cf. the cloth held by two female figures on the so-called Ludovisi throne.

³ See, e.g., *Mon. dell' Ist.* III, pl. XXX; Gerhard, *Auserl. Vasenb.* I, pl. CLI; *Jb. Arch. I.* XI, 1896, p. 189, 33 a. An Ionic chiton with kolpos hanging far down is worn by Athena in the scene of the birth of Erichthonius on the cylix in Berlin, *Mon. dell' Ist.* X, pl. XXXVIII.

The blocks of the frieze of the **North (Front) Side** of the north porch, in so far as they had not remained *in situ*, have now been restored and arranged, on the basis of the indications furnished by the dowel holes, as they are shown in *Ant. Denk.* II, Pl. 34. To complete the block at the right end the fragment shown directly above it on Pl. 34 seems to have been employed; in this a dowel hole at a height of 0.315 m. is preserved in the broken edge. Then between these two pieces another fragment, also apparently ancient, has been inserted (see above, p. 193, n. 1). If this is correct, there would be only two dowel holes in this block. The gap between blocks VI and VIII has been filled with a new block of marble. According to Inwood's drawing (*The Erechtheion*, pl. 3; *Ant. Denk.* II, Pl. 34), the largest of the separate fragments may have had its place here.¹ The two dowel holes existing in this, 0.475 m. and 0.335 m. from the bottom, would correspond to holes 5 and 6 (counting from the left) in Inwood's drawing, which, however, does not give the dowel holes quite exactly.

However this may be, the other dowel holes show by their arrangement and position clearly enough that on this side lively scenes were represented, with figures standing far apart or reaching far out in their movements. On account of the great distances between the dowel holes, one is at first inclined to think that the teams galloping to left had their place here. Of these, as we have seen above, three four-horse teams, or two four-horse teams and one pair of horses, are partially preserved. But apart from the fact that on the west side, as is proved by block VIII (which is, according to Mr. Hill, in its proper place) and by Inwood's drawing, the distances seem to have been in part even greater, various circumstances indicate that on the north side other scenes were represented. In the first place, the irregular arrangement of the dowel holes in the blocks is remarkable. Great intervals alternate with small ones, high with low position, oblique with upright direction. The frequent occurrence of small, square holes, especially in blocks IX and X, is also noticeable. This arrangement of the dowel holes presents a picture very different from that of the

¹ In the restoration of the building this seems to have been used on the south side (see above, p. 193, n. 1).

east side of the north porch and also from that of the east front of the cella; for in both of these a great number of quiet spectators seems to have been present, whereas on the north side of the north porch several events with figures in lively motion and with few spectators appear to have been represented.

Now among the fragments reproduced in *Ant. Denk.* II, Pls. 31 and 32, in addition to the quietly standing and seated figures, a great part of which should doubtless be assigned to the east side of the north porch, there is a series of figures in lively motion, namely, as we have seen above, three dancing and at least six running figures. The three dancing figures (Pl. 31, 5 and 6, Pl. 32, 13) may have represented the daughters of Cecrops, Pandrosus, Aglaurus, and Herse; they may also (like Pl. 33, 18 and 19) be interpreted as Charites or Horae. The running maidens call to mind the representation of the birth of Erichtheus on the cylix in Berlin (Furtw. 2537; *Mon. dell' Ist.* X, pl. XXXVIII). Here three maidens, two of them running, are hastening up, and the inscriptions inform us that Pandrosus, Aglaurus, and Herse are intended. The number of the fragments permits the conclusion that this triad occurred — leaving the three dancing figures out of consideration — at least once more in the frieze of the Erichtheum. Now the arrangement of the dowel holes on the east side of the north porch shows that not more than two of the figures standing in bent posture or kneeling (Pl. 31, 15; ¹ Pl. 32, 26, 27, 28) belonged to the scene of the birth of Erichthonius; it seems, therefore, pretty certain that the care of Erichthonius and the events connected therewith furnished the content of the remaining representations. The running maidens and the great intervals between the dowel holes would be appropriate in the scene in which the three daughters of Cecrops hasten away, terrified by the appearance of the serpent which rises out of the basket of Erichthonius that they have sinfully opened.²

Among the existing fragments there are two which neither

¹ The fragment (which has now disappeared) published in 'Εφ. Ἀρχ. 1837, pl. 16, No. 41, may have formed the lower part of this figure. If that is not the case, still another figure standing in bent posture must be assumed.

² *Ann. dell' Ist.* 1879, Tav. d' agg. F; *Jb. Arch.* I. XI, 1896, p. 190, 33 b; see also Sauer, *Das sogenannte Theseion*, pp. 64 ff.

fit into the circle of spectators nor correspond with the figures seen in the representations of the birth of Erichthonius and the crime of the daughters of Cecrops. These are the woman rising from her chair (Pl. 31, 17) and the woman of the newly added fragment, who stands beside a chair. The two chairs are of the same height and both have arms. The support of the arm of the chair, which is preserved at the right side of Pl. 31, 17, has the form of a crouching sphinx, and the corresponding remnant at the left side of the new chair may have been part of a support of the same kind. The decoration of the two seats, which makes them appear more magnificent than the others that are seen in the frieze, justifies the assumption that they were intended for two especially distinguished persons who were of nearly equal importance. Schöne (*l.c.* p. 12) thought, rightly, in my opinion, of Athena in connection with Pl. 31, 17. He conjectures further that the stiff posture and the parallel arrangement of the legs indicate dependence upon an archaic prototype. This I do not consider impossible, but I believe that the apparent stiffness is conditioned not only by the dependence upon an earlier prototype, but also by the action of the figure. For this figure is not, as Schöne assumes, seated, but is in the act of rising. This view is supported by the fact that the point where the thighs divide corresponds in height with the same point in the standing figures, and moreover the figure seems to have been raising herself (or holding herself up) by the right arm which presses upon the arm of the chair. No trace of the left arm is seen on the left thigh. This arm then did not lie along the body, but was extended to the side or raised. The woman of the new fragment, as has been observed above, is laying a large cushion on the chair and is pressing it down between the arms. The chair is already covered with a cloth. The woman is then preparing a seat, much as a maenad lays a cushion on a chair, likewise covered with a cloth, on the back of the crater in St. Petersburg with the Judgment of Paris (*Compte rendu*, 1861, Atlas, pl. IV, Text, pp. 53 ff.), or as a maiden prepares a seat in the Attic sepulchral relief, *Att. Grab-reliefs*, 881, pl. CLXVIII. On the vase in St. Petersburg the place of the action is determined by the omphalos and the tripod; the seat appears to be prepared for Apollo, whom Diony-

sus is welcoming as his *πάρεδρος* at Delphi.¹ The sepulchral relief is regarded by A. Brückner, to whom I owe the reference to this parallel, as the right half of a large high relief after the fashion of the monument of Demetria and Pamphile. Herein he disagrees with Conze, who assumes no continuation of the relief toward the left (from the spectator's point of view) of the standing maiden. Brückner, following numerous analogies, restores the maiden by giving her a doll in her right hand and letting her (as in *Glyptothèque Ny Carlsberg*, 1907, No. 198) appear with it as a sort of votive offering before Persephone or some other figure (deceased relative) seated upon a throne. This figure receives her *ἐν νεπτέροις* as her *πάρεδρος*, and therefore has the seat prepared for her.

In view of these parallels, it appears to me not doubtful that in our case Athena is having a seat prepared for her *συνέστιος* or *πάρεδρος*, who is called in literature sometimes Erichthonius and sometimes Erechtheus.² The only question is whether the one who shared the temple with the goddess was represented as a child or a grown man. The size and softness of the cushion that is being pressed down between the arms of the chair favor the first supposition;³ the scene must then probably have been represented on the right half of the north side in connection with the crime of the daughters of Cecrops. In the other case it might also have been on the west side.

On the **West Side**, if our previous conclusions are correct, the galloping teams of horses must find their place. Since two of these were four-horse teams (Pl. 34, 12 and 13), it is highly probable that the newly added pair of horses formed part of a four-horse team. Each of the three teams requires a space of about 1.50 m., the three together about 4.50 m. The entire

¹ See *Arch. Zeitg.* 1866, pp. 190 ff. ; also 1865, pp. 98 ff.

² Erichthonius *συνέστιος*, see *Anthol. Gr.* Jac. app. epigr. 50 ; Erechtheus *πάρεδρος*, see Aristides, VIII (*Panathenaicus*), p. 170 D (107, 4 ff.), and schol. on 107, 5 and 6. *Ibid.* p. 193 D (119, 10 ff.), 'Ερχθέα δὲ τοῖς ἐν ἀκροπόλει θεοῖς *πάρεδρον* ἀποδείξασα. Schol. 119. 12, *πάρεδρον*] ἀντὶ τοῦ ἱερέα· δεινῶς δὲ εἶπε *πάρεδρον* οἶονεὶ συγκαθήμενον. D.

³ Representations of the infant Heracles on a crib covered with cloths and cushions (? the representation is not perfectly clear ; a large, wadded quilt might also be intended), see *Mon. dell' Ist.* XI, Tav. XLII ; similar is the representation of Hermes as a child in swaddling clothes, *Mem. dell' Ist.* I, ii, pl. 15.

available space on the west side measures 7.41 m. There remains therefore a space of not quite 3 m. for other figures. Now according to the calculation presented above, each figure occupied on an average one Attic foot; there would then have been on the west side, in addition to the three teams, about nine figures — assuming that there was not by any chance another team of horses. Therefore another separate scene cannot well have been represented here. Unfortunately no conclusions as to the arrangement of the teams can be drawn from the dowel holes, because too little of the blocks of the frieze remains. Inwood's drawings (*Ant. Denk.* II, Pl. 34), as is seen by comparison with the existing blocks of the east side, cannot be trusted;¹ and I must, unfortunately, confess that I can establish no clear connection between the holes in the top of the epistyle and the dowel holes in the blocks of the frieze. The holes in the epistyle are arranged at very various intervals, sometimes within and sometimes outside of the traces left by the figures of the frieze. Only one thing appears to result from the comparison of the east side and the north side of the north porch; namely, that the holes did not serve, or served only in exceptional cases, for the fastening of quietly standing or seated figures. In agreement with this observation, we find that the holes in the under surface of the existing fragments (in regard to which I am not sure that they are all ancient) are found five times in the case of running figures (Pl. 31, 3; Pl. 32, 26, 27, 30; Pl. 34, 3), but only once each in a quietly standing (Pl. 31, 19) and a seated (Pl. 33, 21) figure. No holes are found in Pl. 31, 13, 16; Pl. 32, 12, 13, 14, 15, 20, 32; Pl. 33, 5, 15, 16, 20, 22, 23, 25, 26; Pl. 34, 1, 2, 6, 7; that is, in 20 fragments in all, fifteen of which are quietly standing or seated. In the case of six figures it is unfortunately uncertain whether they were fastened at the bottom, because their lower surfaces are now set in plaster. These are: Pl. 31, 6, 10, 11, 12, 17 and Pl. 34, 9.

If, then, only figures in active motion or large objects or

¹ However, I will not fail to mention that the two first holes from the left correspond with those in block XI, the great gap at the left of the middle with block XIII, and the two holes 11 and 12 (from the left) correspond in height and in the position where they are placed with the block which was, according to my conjecture (see above, p. 193, note 1), inserted here in the reconstruction.

perhaps attributes were attached by special fastenings to the epistyle, the collection of holes in the epistyle of the west side agrees well with the theory that this is the place where the teams were. It is worth mentioning also that Bötticher¹ states that the drill holes in the under surfaces of the fragments, by which they were set on the pins fastened for the purpose in the top of the epistyle, were especially well preserved in the fragments of wagons and horses. In the fragments now known no such holes are preserved, with the exception of one in the left hinder part of the hindermost horse on Pl. 34, 13; we must, therefore, since there is no reason to doubt Bötticher's statement, assume (with Schöne, *Griech. Reliefs*, p. 8) that the fragments have been further mutilated since their discovery. In any case, the relatively regular arrangement of the holes on the right side of the epistyle of the west side agrees well with the teams of horses, which probably differed little from one another.

We may, then, assume with some certainty that a chariot race of four-horse chariots was represented on the west side. If this is correct, we may, in view of the scenes on the east and north sides, conjecture further that Erichthonius played the chief part here also, doubtless as the hero who is said to have been the first to harness a team of four horses and to have founded the chariot races of the Panathenaea.²

LUDWIG PALLAT.

WANNSEE BEI BERLIN.

¹ *Untersuchungen auf der Akropolis von Athen im Frühjahr 1862*, p. 194, "Besonders an Fragmenten von Wagen und Pferdegespannen" waren "die Bohrlöcher unter dem Fussende wohl erhalten, mit welchen sie in (*sic*, auf?) die verticalen Stifte eingesetzt standen, die sich zu diesem Zwecke auf der Oberkante des Epistylions befanden."

² Aristides, II (*Athens*), p. 18 D (12, 8 ff.) and *passim* (Preller-Robert, *l.c.* p. 217, n. 4).

THE POSITIONS OF VICTOR STATUES AT OLYMPIA

I. STATUES MENTIONED BY PAUSANIAS. — Pausanias is our chief source of information concerning the statues set up in honor of victors at Olympia. After describing the "votive offerings" at the end of Book V, he begins the enumeration of the monuments of "race horses . . . and athletes and private individuals."¹ This description falls into two routes (*ἔφοδοι*), the first containing the statues of 169 victors and the second those of 19. Both accounts also mention many monuments erected in honor of private persons. The first route begins with the Heraeum in the northwestern part of the sacred enclosure; the second begins—manifestly where the first ends—with the Leonidaeum at the southwestern corner, and extends to the great altar of Zeus near the centre of the Altis. Besides these meagre indications of his routes furnished by Pausanias himself, we are fortunate in knowing accurately the position of one statue, that of Telemachus, the 122nd victor mentioned, whose base still stands in its original position near the south wall of the Altis, a little southeast of the temple of Zeus, showing that the route passed before the eastern front of this temple and then westward to the Leonidaeum. With these data, and with the help of some forty inscribed bases of statues and other monuments mentioned by Pausanias, many of which were found near their original positions, it is possible to trace yet more definitely his routes. And so several attempts have been made since the German excavations to define topographically the position of these statues, especially

¹ Ἴππων ἀγωνιστῶν . . . καὶ ἀνδρῶν ἀθλητῶν τε καὶ ἰδιωτῶν ὁμοίως (VI, 1, 1).

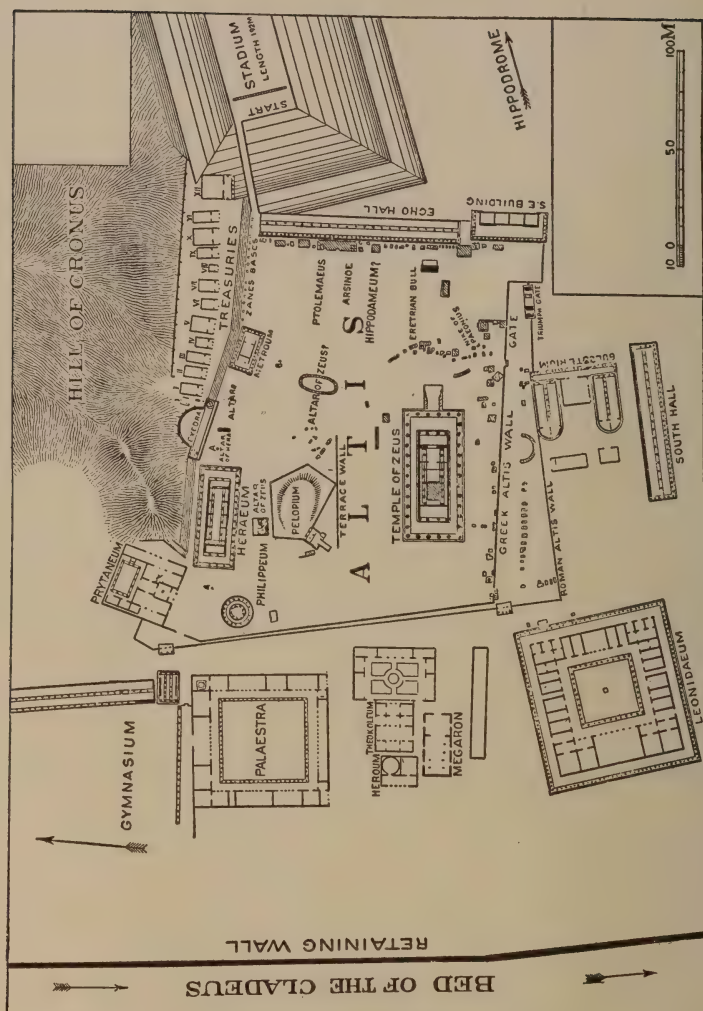


FIGURE 1. — THE ALTIS AT OLYMPIA (after Luckenbach, *Olympia und Delphi*).

by Hirschfeld,¹ Scherer,² Flasch,³ Dörpfeld,⁴ and the present writer.⁵

¹ *Arch. Zeit.* XL, 1882, pp. 119 f.

² *De Olympionicarum Statuis* (Dissert. Berol. 1885), pp. 45 f.

³ In Baumeister's *Denkmäler*, II, pp. 1094 f.

⁴ *Ath. Mitt.* XIII, 1888, pp. 335 f., and *Olympia, Ergebnisse*, Textbd. I, pp. 87 f.

⁵ *De Olympionicarum Statuis a Pausania commemoratis* (Halle, 1903), pp. 63 f. The outline therein forms the basis of this part of the present paper.

The position of several inscribed base fragments of statues corresponding to Pausanias' order of presentation, should alone be sufficient to confute the doubts raised by some¹ that these routes through the Altis were not topographical. But in any attempt to reconstruct them, we must constantly be on our guard against assuming that Pausanias describes a continuous line or row of monuments, as both Hirschfeld and Scherer thought. Though here and there this may have been true, still, generally speaking, we must conceive of these statues as strewn about the Altis in no further order than that they stood in groups and that these groups had only a general direction. For we shall see that Pausanias sometimes returns to the same spot without mentioning it, and often leaves long spaces unnoticed. Apart from the indication of such groups in the description itself, as attested by the use of such words as *παρά, ἐφεξῆς, πλησίον, ἀνάκειται ἐπὶ, ἐγγύτατα, ὀπισθεν, μετὰξυ, κ.τ.λ.*, I have already shown in my previous work that it is possible to reconstruct many other groups, for abundant proof is there given that statues of nearly contemporaneous victors were often grouped together, as were those of the same family or state, or those victorious in the same contest or whose statues were made by the same artist.² So, in general, we can only group certain statues in belts or "zones" around some building or monument which is still *in situ*. Further than this we can seldom go. Gurlitt has thus well expressed the difficulty of following these routes of Pausanias: "Jede folgende Statue ist nach der vorhergehenden orientirt zu denken. . . . Beziehungen auf früher oder später erwähnte Monumente waren überflüssig . . . wir sind . . . auf wenige Fixpunkte angewiesen und verfallen daher leicht in den Fehler, die Wegrichtungen in den Plan zu schematisch einzuzeichnen. . . . Das hin und

The numbers of victors from the catalogue of that work, showing the order of presentation of Pausanias, are retained in this paper: *e.g.* Telemachus (122). A letter after the number indicates either an adjacent "honor" statue, *e.g.* Philonides (154 a), stood next to Menalceas (154), or no statue.

¹ *E.g.* Kalkmann, *Pausanias der Perieget* (1886), p. 88.

² *E.g.* nos. 1, 3, 4, 5, 6 were Eleans; 7-14 Spartans; 48-49 Arcadians; 6-9 and 11-14 were victors in chariot races; 30, 34, 37, 40 were pancratiasts; 26-28 had statues by Sicyonian artists, 39-40 by Athenian; 59-63 formed a family group; etc.

her auf den viel verschlungenen Wegen der Altis können wir nicht mehr kontrollieren.”¹ In his description of the scattered altars (V, 14, 4–15, 12), Pausanias had not the same difficult problem to meet as in that of the victor statues. As there was so little continuity in describing the altars, he had to introduce many other monuments to make their location known; but in the case of the victor statues there was great continuity, and so such indications were superfluous.² And, in general, owing to the number and variety of monuments huddled together in the circumscribed area of the Altis, he was not compelled to describe Olympia with such definite detail as Athens or Delphi. That these victor statues, however, are described in topographical order, is attested by the internal evidence of Pausanias’ words,³ and also by the finding of many of their bases in order. With this introductory warning, let us take up the routes of Pausanias in detail.

He begins his enumeration in the northeastern part of the Altis, ἐν δεξιᾷ τοῦ ναοῦ τῆς Ἥρας,⁴ words which have been the subject of much discussion, as to whether they are to be understood of the temple “pro persona,” i.e. the southern side,⁵ or of the viewpoint of one facing it, i.e. the space (especially the northern or right hand half) before the eastern front.⁶ From the immediate whereabouts of Pausanias we get no clue; for at the end of Book V (27, 11), he says he is in the middle of the Altis, and yet in the following paragraph (27, 12) — evidently added as a transition from the account of the Altars to that of the Victors — he mentions the trophy of the Mendaeans, which

¹ *Über Pausanias* (1890), p. 393.

² The lack of continuity in describing the altars led R. Heberdey, *Eranos Vindobonensis*, 1893, pp. 39 f. (‘Die Olympische Altarperiegese des Pausanias’), to conclude wrongly that Pausanias took over bodily from an earlier work his enumeration of the altars, only here and there interposing a remark of his own, as e.g. V, 15, 2, where he parenthetically describes the Leonidaean.

³ E.g. the statue of the Acarnanian boxer (10) stood among those of Spartan victors (7–14); Eucles (52), a grandson of Diagoras, had his statue away from his family group (59–63); the two statues of Timon (17 and 105 d) stood in different parts of the Altis.

⁴ VI, 1, 3.

⁵ So Furtwängler, *Arch. Zeit.* 1879, p. 146; Treu, *ibid.* p. 207; Flasch, Hirschfeld, and Scherer in the articles already cited.

⁶ So Dörpfeld, *l.c.*, p. 88; Michaelis, *Arch. Zeit.* 1876, p. 164, Blümner, *Berl. Phil. Woch.* 1904, col. 1382, and *Pausaniae Graeciae Descriptio*, II, 2, p. 531.

he says he nearly mistook for the statue of the pancratiast Anauchidas (131), which we shall see stood near the south wall of the Altis far from the centre. So Dörpfeld's contention that Pausanias approached the Heraeum from this point, and that consequently the words ἐν δεξιᾷ must refer to its eastern front, is untenable, and we are left dependent on the meaning of these words as gathered from other passages in Pausanias' work. An examination of several such passages has convinced me that they are used here of the Heraeum "pro persona."¹ Furthermore, the finding of the inscribed tablet from the base of the statue of Troilus (6), and the pedestal of that of Cynisca (7) in the ruins of the Prytaneum, not far from the western end of the Heraeum, and the base of that of Sophius (22) in the bed of the Cladeus still further west, makes it reasonable to conclude that the first few statues mentioned (VI, 1, 3-3, 7), those of the Spartan group (Cynisca-Lichas, 7-14), all of the fifth century, flanked on either side by statues of the fourth, mostly of Eleans (Symmachus-Troilus, 1-6 and Timosthenes-Eupolemus, 15-28) originally stood in the order named by Pausanias along the southern front of the temple.²

¹ *Op. cit.* p. 64 and *A.J.A.* XI, 1907, No. 4, p. 408, note 3. I here append three such passages: In V, 24, 3, in speaking of the statue of the Zeus of the Lacedaemonians, he says it stood "τοῦ ναοῦ δὲ ἐστὶν ἐν δεξιᾷ τοῦ μεγάλου Zeus πρὸς ἀνατολὰς ἡλίου," i.e. southeast corner of the temple near where the pedestal was found (cf. *Inscr. v. Ol.* 252 and *Olympia. Ergeb.* Textbd. I, 86); in V, 26, 2, in speaking of the offerings of Miccythus, he says they stood "παρὰ δὲ τοῦ ναοῦ τοῦ μεγάλου τὴν ἐν ἀριστερᾷ πλευράν," i.e. on the northern side of the temple of Zeus, where most authorities find their foundation (cf. *Inscr. v. Ol.* 267-269 and Flasch, *op. cit.* p. 1093): in VIII, 38, 2 he says Mt. Lycosura is ἐν ἀριστερᾷ τοῦ ἱεροῦ τῆς Δεσποίνης," i.e. to the north of that temple.

If he had meant the eastern front of the Heraeum, he would have said ἀντικρὺ τοῦ ναοῦ (cf. V, 27, 1) or κατὰ τὸν ναόν (cf. V, 15, 3).

² See *Inscr. v. Ol.* Nos. 166 (Troilus), 160 (Cynisca), 172 (Sophius). Because of the finds in the Prytaneum, both Hirschfeld and Scherer started this ἔφοδος west of the Heraeum.

The unfinished condition of the back of the Lysippean marble head which I have ascribed (*A.J.A.* XI, 4, pp. 396 f.) to the Acarnanian boxer (10), whose name I have restored as Philandridas, and which was also found in this vicinity — between the Prytaneum and the Gymnasium (see *Ol. Ergeb.* Textbd. III, p. 209) — as well as its excellent preservation, show it once stood in a sheltered place against a solid background and so perhaps against one of the temple columns. From this it might be concluded that some of these statues adorned the southern steps of the Heraeum.

Leaving the Heraeum we get no further fixed point until we arrive opposite the eastern front of the temple of Zeus. For here around the foundation of the Eretrian Bull—still *in situ* 32 m. east of the northeastern corner of the temple¹—have been found the fragments of the pedestals of the statues of Narycidas (49) and Hellanicus (65) to the south, of Callias (50) and Eucles (52) beneath that of Callias, to the north, of Euthymus (56) and Charmides (58) close together to the east.² So it is clear that the series of statues from Narycidas to Charmides (49–58, VI, 6, 1–7, 1) stood in this neighborhood. Now the statues of the family of Diagoras, the Rhodian athlete (59–63), stood together, as Pausanias says (VI, 7, 1–2); one of them, that of Eucles (52), seems to have been moved from its original position later, as we see from the scholiast on Pindar's seventh Olympian ode,³ who on the authority of the lost works of Aristotle and Apollas on the Olympic victors,⁴ enumerates these statues in an order different from that adopted by Pausanias, showing that a change in their positions must have taken place sometime between the time of Aristotle and that of the periegete.⁵ The statues of Alcaenetus and his son, Hellanicus (64–65), must also have stood together. Inasmuch as the victors from Euthymus to Lycinus (56–68) are, with one exception, all

¹ See *Inscr. v. Ol.* No. 248; cf. V, 27. 9.

² See *Inscr. v. Ol.* Nos. 161 (Narycidas); 146 (Callias); 159 (Eucles); 144 (Euthymus); 156 (Charmides); 155 (Hellanicus). Other bases of statues which must have stood in this vicinity have also been found, far from their original positions; *i.e.* those of Athenaëus (36), 56 m. west of the Leonidaëum; of Polydamas (47), fragments 26 m. southeast of the Echo-hall; of Diagoras (59), five fragments near the Metroûm; of Damagetus (62) in the Leonidaëum; of Dorieus (61) near the Victory of Paeonius; of Cyniscus (45) inside the Byzantine church; of Damoxenidas (54) near the Heraeum. See *Inscr. v. Ol.* Nos. 168 (Athenaëus), 151 (Diagoras), 152 (Damagetus), 153 (Dorieus), 149 (Cyniscus), 158 (Damoxenidas); for the sculptured base of Polydamas, see *Ol. Ergeb.* Tafelbd. III, pl. LV, 1–3.

³ p. 158, ed. Böckh.

⁴ Aristotle's work is mentioned by Diogenes Laertius, V, 26; cf. *F.H.G.* (ed. Müller), II, p. 183; fragm. 264 Apollas is almost unknown; cf. *F.H.G.* IV, p. 307, fragm. 7; he probably copied from Aristotle.

⁵ This is Dittenberger's explanation (*Inscr. v. Ol.* 151), and also that of Robert (*Hermes*, XXXV, p. 195), Scherer, *op. cit.* p. 49 and Gurlitt, *op. cit.* p. 411; Purgold, however (*Inscr. v. Ol.* p. 262), has tried to reconcile the two accounts on the theory of no change.

pugilists and of the fifth century, they must have been grouped together, with the family groups of Diagoras and Alcaenetus in the centre.¹ We may also add the statues of Dromeus and Pythocles² (69-70) of nearly the same date, and we can also extend the group in the other direction. For the same scholiast says the statue of Diagoras stood near that of Lysander (35 a).³ Pausanias (VI, 3, 14 and 4, 1) says the statue of Lysander stood between those of Pylilampes and Athenaeus (35-36). Thus we can conclude that the 36 statues (35-70, VI, 3, 13-7, 10) stood in the zone of the Eretrian Bull, extending perhaps across the Altis to the vicinity of the Echo Colonnade along its eastern boundary.

It would follow then that the intervening statues from Oebotas to Xenophon (29-34, VI, 3, 8-3, 13) stood somewhere between the Heraeum and the Eretrian Bull. It is idle to discuss the route between these two monuments more definitely.⁴

Our next fixed point is the Victory of Paeonius, whose foundation is still standing in its original position, 37 m. due east of the southeast corner of the temple of Zeus.⁵ For, of the next few statues mentioned, the base of that of Sosicrates (71) was found "somewhere" east of the temple, that of Critodamus (80) before the Southeast Building, and that of Xenocles (85),

¹ However, Kalkmann, *op. cit.* p. 90, thinks the two groups of Diagoras and Alcaenetus stood apart.

² The base of the statue of Pythocles was found between the Heraeum and the Pelopium. See *Inscr. v. Ol.* 162-163.

³ Gurlitt (*op. cit.* p. 412) assumed the possibility of the existence of two different statues of Lysander, one 35 a and the other somewhere after Charmides (58) in the family group of Diagoras; Kalkmann (*op. cit.* p. 105, note 4) explains the discrepancy between the scholiast and Pausanias on the theory that the latter borrowed from older lists; Purgold, *Aufsätze E. Curtius gewidmet*, p. 238, assumed but one.

⁴ Scherer, *op. cit.* p. 51 (cf. plan opposite p. 56) and Flasch, *loc. cit.* p. 1095, note 1, proposed a route south from the Heraeum to the west of the so-called Great Altar of Zeus, while Hirschfeld, *l.c.* p. 119, made it run to the east of it. Dörpfeld, *Topog. von Ol.* i, 88, starting east of the Heraeum, made it run first to the west along the south side of the temple and thence around the western side of the Pelopium and so across to the Eretrian Bull; Michaelis, *l.c.* p. 164, with the same starting point, had it bear first to the east parallel with the Treasury Terrace, and thence south.

⁵ See *Inscr. v. Ol.* No. 259 and *Ol. Ergeb.* Textbd. 2, p. 153-155, etc.; cf. V, 26, 1.

4 m. to the northeast of the Victory base, presumably near its original position.¹ Pausanias groups the three Arcadian athletes, Euthymenes-Critodamus (78-80, VI, 8, 5), then, after naming four statues of victors from other states, he mentions two more Arcadians together, Xenocles and Alcetus (85-86, VI, 9, 2), and continues by saying that the statues of the Argives Aristeus and Chimon (87-88, VI, 9, 3) stood together. One more statue, that of Philles of Elis (89), he names before he comes to the chariot of Gelo. Thus we may conclude that the series of statues denoted by the numbers 71-89 (VI, 8, 1-9, 4) stood to the south of the Eretrian Bull in the parallel zone of the Victory.

We next come to the series of statues mentioned between the chariots of Gelo and Cleosthenes (90-99). The position of the bases of these chariots is practically certain. In describing the statues of Zeus in Book V, Pausanias says he is proceeding north from the Council House (23, 1), and first mentions a statue of Zeus set up by the Plataeans; in describing the Victor statues he says the chariot of Cleosthenes stands behind this statue of Zeus (VI, 10, 6). After describing the Plataean Zeus, he mentions a bronze inscribed tablet as standing in front of it (V, 23, 4), and then says the statue of the Zeus of the Megarians stands near the chariot of Cleosthenes (23, 5). As he is proceeding north, this Megarian Zeus must have stood north of the Plataean one; thus in one group we have the two statues of Zeus and the chariot of Cleosthenes. Immediately to the north he next mentions the chariot of the Syracusan tyrant Gelo (90), which he says is near the statue of the Zeus of the Hyblaeans (23, 6). Now in coming south, in the athlete periegesis, he names eight statues between these chariots. Dörpfeld² has identified the Plataean Zeus with a large pedestal to

¹ See *Inscr. v. Ol.* Nos. 157 (So(si)crates; for restoration of the name, see Hyde, p. 37); 167 (Critodamus); 164 (Xenocles). The plate from the pedestal of the statue of the unknown Arcadian victor (79) was found far away from this point, in the Palaestra; I have shown that the statue of Philip (79 a), mentioned by Pausanias as the work of Myron (cf. VI, 8, 5), was really that of this older unknown Arcadian, and was later used for Philip, who won Ol. 119-125; see *Inscr. v. Ol.* No. 174. Hyde, *op. cit.* pp. 39-41.

² See *Ol. Ergeb.* Textbd. I, p. 86, and cf. II, p. 78. A slit in the lower step of the base of the Zeus may have contained the tablet mentioned V, 23, 4. Three

the northwest of that of the victor Telemachus (122) *in situ* near the South Altis wall,¹ a position in harmony with the description of the statues of Zeus; just behind it he has identified two large foundations near together as those of the two chariots. So the eight intervening statues stood here. Of the statues between the chariot of Cleosthenes and the base of the statue of Telemachus, the base of that of Tellon (102) was found in the East Byzantine wall near the South Altis wall; that of Aristion (115) nearly embedded in the same wall; that of Acestorides (119), whose name I have inserted in the lacuna in the text of Pausanias (VI, 13, 7),² just northeast of the base of Telemachus.³ Thus the series of statues from that of Gelo to

of the four inscribed blocks of Gelo's chariot base were found in the Palaestra, cf. *Inscr. v. Ol.* No. 143.

For Dörpfeld's identification of the Council House with the tripartite building south of the temple of Zeus just outside the South Altis wall, see *Ausgrab. zu Ol.* IV (1878-1879), pp. 40-46, and *Ol. Ergeb.* Text bd. II, pp. 76-79. Others, on the basis of a passage in Xenophon (*Hell.* VII, 4, 31), wrongly place it near the Prytaneum in the northwestern part of the Altis. Cf. Frazer, *Comm. to Paus.* III, p. 636 f., and Dörpfeld, *l.c.* p. 78 f.

¹ See *Inscr. v. Ol.* No. 177. It stands on the south edge of the South Terrace wall between its gateway and the later East Byzantine wall of the Altis.

² *Op. cit.* p. 49 f. where I assume that the passage VI, 13, 8 is a digression, and that the name of a victor has dropped out at the end of 13, 7. I have inserted the name of Acestorides of Alexandria Troas, placing his statue next to that of Agemachus (118) of similar date and the only other Asiatic in this part of the Altis. Förster, *Die Sieger in den olympischen Spielen*, No. 501, dates Acestorides wrongly in the second century B.C. (on the basis of Furtwängler, *Ath. Mitt.* 1880, p. 30, n. 2. end), though the inscription from the base is referred by Dittenberger to the end of the third; Agemachus won Ol. 147; I have therefore dated Acestorides tentatively between Ol. 142 and Ol. 144.

³ See *Inscr. v. Ol.* Nos. 147, 148 (Tellon, inscription renewed in the first century B.C.); 165 (Aristion); 184 (Acestorides).

Röhl (*I. G. A.* No. 355 and Add. p. 182) referred an inscription on some marble fragments found in 1879 (cf. *Arch. Zeit.* 1879, p. 161), one found near the Heraeum, another east of the temple of Zeus, to the victor Agiadas (103); Dittenberger (cf. *Inscr. v. Ol.* No. 105) and others have rightly rejected it. Similarly the inscribed base of the statue of Areus (105 b), son of Acrotatus, King of Sparta, found in the Heraeum (see *Inscr. v. Ol.* No. 308), belongs rather to the second statue of Areus (148 a) dedicated by Ptolemy Philadelphus; cf. Hyde, *op. cit.* p. 44-45. I have also referred the second inscription of the artist Pythagoras (*Inscr. v. Ol.* No. 145), found in the Leonidaem, to the statue of Astylus (110), because of its similarity to that on the base of the statue of Euthymus (56), likewise by Pythagoras (pp. 47-48 = *Inscr. v. Olymp.* No. 144).

that of Agathimus (90-121 a, VI, 9, 4-13, 11) can be grouped in the zone of the Chariots.

As the fragment of the base of the statue of the Athenian pancratiast Aristophon (123) was found near the base of Telemachus, but to the east of it, and likewise that which supported the equestrian monument of Xenombrotus and Xenodiceus (133-134) still further to the east near the Echo Colonnade,¹ we can conclude that the twenty-one statues from Aristophon to Procles (123-138, VI, 13, 11-14, 13), mostly of the fifth century, stood near the South Altis wall to the east and not to the west of the base of Telemachus, where all other investigators have wrongly placed them,² and thus form a group which we can call the zone of Telemachus. So we see that the long list of statues from Pyrilampes to Procles (35-138), nearly two-thirds of all those mentioned in the first *ἔφεδος* of Pausanias, stood in the space to the east and southeast of the temple of Zeus, grouped around the parallel zones of the Bull, Victory, Chariots, and Telemachus.

On the other hand, the statues beginning with that of Aeschines (139) and extending to that of Philonides (154 a) (VI, 14, 13-16, 5) must have stood to the west of the base of Telemachus and along the South Terrace wall some 20 m. south of the temple of Zeus, where many of the following pedestals were found in the order named by Pausanias; that of Aeschines (139) was found near the Council House, that of Archippus (140) nearly between the Terrace wall and the north wing of the Council House; that of Epitherses (147), opposite the sixth column of the temple from the west, some eleven paces from the Terrace wall, and the fragment of the base of the honor statue of Antigonus (147 f.) very near it; the base of the statue of Caper (150) was found further on in the West Byzantine wall (which begins at the southwest corner of the temple); and lastly, the base of the "honor" statue of Philonides (154 a), Alexander's courier, was found in the southwest

¹ See *Inscr. v. Ol.* Nos. 169 (Aristophon), 154 (Xenombrotus and Xenodiceus), following Robert's ascription, *Hermes*, XXXV, p. 179 f.; a second epigram referring to Xenombrotus alone [*Inscr. v. Olymp.* No. 170] must belong to a second monument not mentioned by Pausanias; cf. Hyde, *op. cit.* p. 53).

² *E.g.* Furtwängler, *Arch. Zeit.* 1879, p. 140 (quoted by Dittenberger); Frazer, *op. cit.* IV, p. 43, etc.

corner of the Altis at the extreme west end of the South Terrace wall, almost, if not exactly, in its original position.¹ Thus Pausanias, after coming south to the statue of Telemachus, first goes eastward as far as the statue of Procles, then returns, repassing the two chariots on the way without remark, and then continues westward to the southwestern corner of the Altis. All these statues west of Telemachus are of the fifth and fourth centuries, with the exception of one, that of Eutelidas (148), who won in Ol. 38. This is the oldest statue in the Altis, despite Pausanias' statement,² and it doubtless originally stood in the area occupied toward the middle of the fifth century by the temple of Zeus, being then transferred to its new position south of the temple.

After the statue of Philonides, there are still nineteen statues to dispose of in this first *ἔφωδος*, those from Brimias to Glaucon (155-169, VI, 16, 5-16, 9). Of these statues, the base of that of Leonidas of Naxos (155 a), the founder of the great building just outside the southwestern corner of the Altis named after him, was found in a Byzantine wall before the eastern end of the north front of that building, while that of Seleadas (159) was found within the ruins of the same building; the base which supported the monuments of Polypithes and Calliteles (160-161) — which, owing to the early dates of their victories, Ols. 66(?)—70(?), must have stood originally in the area later occupied by the temple of Zeus, like that of the above-mentioned Eutelidas — a little to the south of the Byzantine church, between the bases of the statues of Leonidas and Glaucon; two fragments of the base of the statue of Dinosthenes (163), one east of the apse of the church, the other in the ruins of the Palaestra further north; and lastly, that of Glaucon, built into

¹ See *Inscr. v. Ol.* Nos. 176 (Aeschines); 173 (Archippus); 186 (Epitherses); 304 (Antigonus [a fragment of the base of the statue of Demetrius (147 e) was also found, the exact location not being recorded, cf. No. 305]); 276 (Philomides; a second mutilated copy of this inscription was found near by built into a late wall north of the Byzantine church; see No. 277); Pausanias (VI, 15, 10) mentions two statues of Caper; Furtwängler, *Bronzen von Ol.* Textb. IV, pp. 11-12, No. 3, 3 a, Taf. III, has assigned to one of them a bronze foot found near the South Altis wall.

² VI, 18, 7. He gives this honor to Praxidamas and Rhexibius (187-188), who won in Ols. 59 and 61 respectively. The statue of Oebotas (29), who won in Ol. 6, was, however, set up in Ol. 80 by the Achaeans (VI, 3, 8).

late walls northwest of the church.¹ As the statue of Philonides stood at the extreme western end of the South Altis wall, and as most of these fragments were found in the vicinity of the Leonidaem, it would be natural to conclude that the majority of these later statues stood in the spaces just outside the West Altis wall. But at the end of the first ἔφοδος (VI, 17, 1), Pausanias says he has so far named statues "within the Altis," and so most investigators have placed these nineteen statues either west of the temple of Zeus or in the space at the southwestern corner of the Altis. We shall see in the second part of this paper, that many other victor statues, not mentioned by Pausanias, stood just outside the West Altis wall. And it is doubtful whether these words of Pausanias, "ἐν τῇ Ἀλτει" (VI, 17, 1), should be taken thus literally, especially on any theory of his use of earlier accounts in the final compiling of his own. If they did stand "within" the Altis, they could scarcely have stood to the west or southwest of the temple of Zeus, for the second ἔφοδος, as we shall see, passed there. A better alternative would be the following: In describing the Leonidaem (V, 15, 2), Pausanias says this building stood "outside the sacred enclosure at the processional entrance into the Altis . . . separated from this entrance by a street; for what the Athenians call lanes, the Eleans name streets."² Now Dörpfeld has shown that inside the West Altis wall and parallel to it—just south of the base of Philonides' statue—is a line of bases ending in the later South wall of the Altis, so that this

¹ See *Inscr. v. Ol.* Nos. 294 (Leonidas, cf. *Ath. Mitt.* XIII, p. 322, note 1, Treu); 183 (Seleadas; this is my own ascription; cf. *op. cit.* p. 58; Dittenberger wrongly restored the name as Σέλευκος); 632 (Polypithes and Calliteles); 171 (Dinosthenes); 178 (Glaucón; his monument was a little bronze chariot, not a statue, thus imitating earlier sixth century victor dedications, like that of Cynisca (7); No. 296 is another inscription from a statue of Glaucón dedicated by Ptolemy).

The pedestal of the statue of Paeanius (167) was found back of the south side of the Echo Colonnade, far removed (cf. No. 179); Pausanias again mentions Paeanius in VI, 15, 10. Another pedestal, found south of the west end of the Byzantine church (No. 632), has been referred by Purgold to the statue of Lysippus (162), cf. *Arch. Zeit.* 1881, p. 85 f. Blümner, *op. cit.* Vol. II, p. 615, and others have rejected the ascription.

² διέστηκε δὲ ἀγυιὰν ἀπὸ τῆς ἐσόδου τῆς πομπικῆς. τοὺς γὰρ δὴ ὑπὸ Ἀθηναίων καλουμένους στενωποὺς ἀγυῖας ὀνομάζουσιν οἱ Ἑλεῖοι.

West wall and row of pedestals form a cul de sac.¹ It is clear that no such row of statues would have been placed leading up to a dead wall; therefore these statues must have stood there before the wall was built, and must once have formed the eastern boundary of a wide street skirting the eastern side of the Leonidaem, which was twice as wide as later, when the wall cut off half its breadth and made it a lane, though the older name "street" was retained. The later Roman enlargement of the Altis is well known. The long row of pedestals to the south of and parallel with those already discussed as standing along the line of the South Terrace wall, westward of the base of Telemachus, once formed the southern boundary of the "Processional Way," which ran from the Leonidaem to where it debouched into the Altis at its southeastern corner. Originally outside the Altis, they were later, together with the road itself, included in it. The pedestals, then, in the above-mentioned cul de sac, and also the fourteen (among them that of Metellus Macedonicus) that adorned the south side of the Processional Way, may be the remains of some of these last statues mentioned by Pausanias.

We next come to the second ἔφοδος introduced by these words: "εἰ δὲ ἀπὸ τοῦ Λεωνίδαίου πρὸς τὸν βωμὸν τὸν μέγαν ἀφικέσθαι τῇ δεξιᾷ θελήσεις, τοσάδε ἐστὶ σοι τῶν ἀνηκόντων ἐς μνήμην" (VI, 17, 1). The Leonidaem, the site of which was still in dispute till after the close of the excavations, was finally identified by Treu,² with the so-called "Südwestbau," as had been

¹ See *Ath. Mitt.* 1888, pp. 327-336 ('Die Altis Mauer in Olympia'). On the west of the Altis are the ruins of two parallel walls, the inner Greek, the outer Roman; the original South wall of the Altis ran along the line of the South Terrace wall, the later Roman wall (dating from Nero's time) to the south of it. Thus in Pausanias' day, the πομπικὴ ἔσοδος was opposite the Leonidaem. In two other passages, however, it is in the southeast corner of the Altis (V, 15, 7; VI, 20, 7). Heberdey (*op. cit.* pp. 34-47) explains this discrepancy by saying that Pausanias, in speaking of the southwestern entrance, is speaking from his own observation after the Roman extension, and in the other passages is copying from other writers who wrote before that extension. Dörpfeld's explanation, however, is better: in the Roman extension a gate was built in the southwest corner of the new west wall, superseding the older southeast entrance. Processions still passed along the same way, but were now inside the Altis, the great gateway of Nero at the southeast corner being given up after his death. Cf. Frazer, *op. cit.* III, pp. 570-572.

² *Ath. Mitt.* 1888, pp. 317-326 ('Die Bauinschrift des Leonidäums zu Olym-

already assumed by many investigators.¹ The site of the Great Altar, however, is still undetermined. The elliptical depression to the east of the Pelopium, whose dimensions (125 feet in circumference) agree with the figures of Pausanias (V, 13, 9) for the "prothesis," or lowest stage of the Altar, identified with it by most scholars,² must now be given up, since the recent excavations of Dörpfeld, which prove it to be the remains of two prehistoric dwelling houses with apse-like ends.³ Nor can the remains of walls lying between the Heraeum and the Pelopium, formerly supposed to be those of an altar,⁴ any longer be referred to the Great Altar since Dörpfeld's discoveries. So we are dependent on the words of Pausanias alone for its location, who says it stood "equidistant from the Pelopium and the sanctuary of Hera, but in front of both,"⁵ therefore, somewhat northwest of

pia'); and cf. *Inscr. v. Ol.* No. 651 and *Ol. Ergeb.* Textbd. II, pp. 83-93 (Borrmann).

¹ E.g. K. Lange, *Haus und Halle*, p. 331; Hirschfeld, *l.c.* p. 112 and p. 121; Flasch, *l.c.* pp. 1095 and 1104 K; others placed it elsewhere, e.g. Curtius-Adler, *Ol. und Umgegend*, pp. 23 sq.; Scherer, *op. cit.*, p. 55 f. (and plan) identified it with the Southeast Building, where he had this second *εφοδος* start (so also Flasch).

² Thus Curtius, *Altäre v. Ol.* p. 4 (= *Gesammelte Abhandlungen*, II, pp. 42 f.; Adler, *Arch. Anz.* 1894, p. 85; *ibid.* 1895, pp. 108 f. (cf. his reconstruction in *Ol. Ergeb.* Tafelbd. II, Pl. CXXXII and Textbd. II, pp. 210 f.); Curtius-Adler, *op. cit.* p. 35; Flasch, *l.c.* p. 1067 (cf. *Funde v. Ol.* pp. 238-239); Bötticher, *Olympia*², p. 190 f. (Plan); Furtwängler, *Ol. Ergeb.* Textbd. IV (Bronzen), p. 4; Hirschfeld, *l.c.* p. 119 (= plan); Scherer, *op. cit.* p. 56 (with plan); Trendelenburg, *Das Grosse Altar des Zeus in Olympia*, pp. 17 f.; Dörpfeld, *Ol. Ergeb.* Textbd. II, p. 162 (cf. I, p. 82, where he admits the possibility that it may have stood further northwest, nearer the Heraeum).

³ See *Ath. Mitt.* XXXIII (1908), pp. 185 sq., 'Olympia in prähistorischer Zeit'; cf. "Year's Work in Classical Studies," 1908, p. 12.

⁴ Thus Puchstein, *Arch. Anz.* 1893, p. 22; *ibid.* 1895, p. 107; *Jb. Arch. I.* 1896, p. 53 f. (with "oblong" reconstruction by Koldewey, p. 76); *Woch. für. Class. Phil.* 1895, p. 475; and Wernicke, *Jb. Arch. I.* 1894, pp. 93 f. This view was already refuted by Adler, *Arch. Anz.* 1895, p. 108, and Dörpfeld, *Bauwerke v. Ol.* Textbd. II, pp. 162 f. Dörpfeld now refers these remains also to prehistoric houses (cf. note 3 above).

⁵ V, 13, 8. Exact site of Pelopium is given in V, 13, 1. Wernicke (*l.c.* pp. 94 f.) placed the older altar of Zeus (who was at first worshipped in common with Hera) between the Heraeum and Pelopeum, as Puchstein had done. Later, however, after the building of the temple of Zeus, and the Pelopeum, the altar was moved east of both and stood somewhere northwest of the elliptical depression where Pausanias saw it. He explained the lack of remains on the theory

the elliptical depression nearer the centre of the Altis. Our problem, then, is to find Pausanias' route between these two points, and here again, as at the beginning of the first ἔφοδος, we must rightly interpret the words ἐν δεξιᾷ. Michaelis, in his paper on the use of ἐν δεξιᾷ and ἐν ἀριστερᾷ in Pausanias' work, made these words refer to the southern side of the Processional Way, i.e. to the side at the right of Pausanias, who was facing east after arriving at the Leonidaeum.¹ Thus the statues already mentioned along the South Terrace wall (Aeschines, 139 — Philonides, 154 a) would be on his left side. On this interpretation both Hirschfeld and Dörpfeld had the second ἔφοδος follow the Processional Way eastward parallel to the first—thus including the line of pedestals, which we have referred to the end of the second—and then, near the Council House, curve northward in front of the temple of Zeus, virtually a repetition of the first ἔφοδος. On this theory Dörpfeld² wrongly explained the first route as containing statues ἐν τῇ Ἀλτει, while the second was outside the older Altis, and so, though equally long, contained fewer statues. But against this interpretation, it must be urged that the periegete is describing the Altis of his day, when the road in question was included within its boundaries, and that the Great Altar and the two last statues mentioned (187, 188) as standing near the pillar of Oenomaus were always inside.³ And neither this Processional Way nor the space before the eastern front of the temple of Zeus were localities for "unimportant mixed statues."⁴ Furthermore, if he had merely retraced his steps after arriving at the Leonidaeum,—and he says nothing of

that the Christians would completely destroy this, the chief pagan altar. Dörpfeld (*Bauw. v. Ol.* Textbd. II, p. 163) suggested that it may have stood south of the Exedra of Herodes Atticus, where its site must certainly be sought.

¹ *Op. cit.* p. 164.

² See *Ath. Mitt.* 1888, p. 335 f. (and cf. *Ergeb.* Textbd. I, 88). He says: "Zu unserer Verwunderung sehen wir, dass der zweite Teil die ununterbrochene Fortsetzung des ersten Teiles ist, also in Wirklichkeit nur eine Ephodos, nur ein einziger Rundgang."

³ This pillar stood between the Great Altar and the temple of Zeus. Cf. V, 20, 6.

⁴ Ἀνδριάντας δὲ ἀναμεμγμένους οὐκ ἐπιφάνειν ἄγαν ἀναθήμασιν (VI, 17, 7); again in VI, 18, 2, he says he discovered "by searching" (ἀνευρών) the statue of Anaximenes.

returning, — he would not have begun a new route,¹ but would have said something like this: *εἰ δὲ ὀπίσω ἀναστρέψας ἀπὸ τοῦ Λεωνιδάου πρὸς τὸν βωμὸν αὐθις ἀφικέσθαι τῇ δεξιᾷ θελήσειας* (by analogy with the words in V, 15, 1). So it is simpler to conclude that the new route wound around the western and northern sides of the temple of Zeus over the temple terrace.² As no building is mentioned on the way, and as the north side of the temple would have been called *ἀριστερὰ πλευρά* (in accordance with the usage discussed above in connection with the Heraeum), and as the Pelopium faces southwest, the words *ἐν δεξιᾷ* can refer only to the right hand of Pausanias, viz. the right side of the road followed. If we assume that the words originally stood after *τοσάδε ἐστὶ σοι* and were transferred by a later copyist, the difficulty is resolved.³

Of the nineteen victor statues in this second route (170–188, VI, 17, 1–18, 7), no bases have been found.⁴ But of the three “honor” statues included, one base, that of the rhetorician Gorgias (184 a), was recovered 10 m. northeast of the temple of Zeus, and so not far from its original position.⁵ For Pausanias mentions only three more statues, before he comes to the

¹ Similarly on arriving at the statue of Telemachus he moved first to the east and returned, passing the chariot of Cleosthenes, before proceeding west, without mentioning the fact.

² The Terrace wall can still be traced before the western front of the temple and also to the northeast of it. Cf. Treu, *Arch. Zeit.* 1878, p. 36, “So umgab denn vermutlich einst den ganzen Tempel eine statuenbekrönte Terrasse.” Hitzig-Blümner, *op. cit.* II, 2, p. 619, suppose such a road to the west and north the temple, but would interpret it *ἐν ἀριστερᾷ*.

³ Cf. Hyde, *op. cit.* p. 70; Blümner (cf. note 2) rejects this textual change and follows Hirschfeld and Dörpfeld. I proposed this change by analogy with the text of V, 24, 1; 21, 2 and other passages.

⁴ The bronze tablet of Democrates (170), found south of the southwest corner of the temple of Zeus, did not belong to his victor statue, but stood inside the temple. See *Inscr. v. Ol.* No. 39. Also the archaic helmeted marble head and arm with the remains of a shield attached (see *Ergeb. Tafelbd.* III, pl. VI, 1–4, 5–6), the head being found west of the temple and the arm before the gate of the Pelopium, wrongly ascribed by R. Förster (*Das Porträt in der Gr. Plastik*, p. 22, note 5) to Damaretus (94), and by Treu (*Arch. Zeit.* 1880, p. 48 f., and *Bildw. v. Ol.* III, p. 34, note 2) and Overbeck (*Gesch. der gr. Pl.*⁴ I, p. 198 f., and *ibid.* p. 178) to Eperastus (183), I have referred to an older hoplite, Phricias of Pelinna (Förster, *Sieger v. Ol.* Nos. 151, 155). Eperastus won after Ol. 111. See Hyde, *op. cit.* p. 43.

⁵ See *Inscr. v. Ol.* No. 293.

last two in this ἔφοδος, which stood in this vicinity. The parts of the Altis to the west and north of the temple were unimportant till the time of Alexander the Great, and were, therefore, remarkably free of monuments. In the whole description of Pausanias, we know of only three altars (those of Aphrodite, the Seasons, and the Nymphs) and a wild olive tree (the "Olive of the Beautiful Crown") to the west of the temple (V, 15, 3), and only of the votive offerings of a certain Micythus to the north of it (V, 26, 2).¹ As the statue of Gorgias stood among the "unimportant mixed statues" already mentioned (184-186), these must have stood somewhere north of the temple near its eastern end. Finally, the two ancient wooden statues of Praxidamas and Rhexibius (187-188, VI, 18, 7) are mentioned by themselves as near the column of Oenomaus, which Pausanias elsewhere² says stood near the Great Altar of Zeus on the left of a road running south from it to the temple. Pausanias, after describing these "mixed" statues, may have finally left the road thus far followed and introduced these last two statues as quite distinct from the second ἔφοδος.³ But he does not seem to have gone far from his route, for immediately after ending his account of the victor statues, he begins his account of the "Treasures," which lay beyond the Great Altar farther north.

Thus Pausanias ends his second route somewhere short of the Great Altar, and it appears, after all, to be only a continuation of the first, forming with it one unbroken "Rundgang,"

¹ See *Inscr. v. Ol.* No. 267-269. Supposed foundation found thirty feet north of the temple. Cf. Frazer, *op. cit.* III, pp. 646 sq.

² V, 20, 6. A large foundation, between the pedestal of Dropion, King of the Paeonians (*Inscr. v. Ol.* No. 303), and the pedestal of the Eretrian Bull, may have formed part of the house of Oenomaus (cf. Curtius u. Adler, *op. cit.* p. 40; Flasch, *l.c.* p. 1074); Wernicke (*Jb. Arch. I.* IX, 1894, p. 93), however, refers it to the oval depression called the Great Altar. Dörpfeld (*Ol. Textbd.* I, 77) is opposed to this view and places it further north, near the Metroum.

³ This is Kalkmann's theory (*op. cit.* p. 89), who calls this section (VI, 18, 7) the "letzten Trumpf," an addition having no connection with the second ἔφοδος. He compares it with V, 24, 9, where Pausanias, after ending the periegesis of the Altars, adds one more, that of "Zeus Horkios," standing in the Council House, though he had already passed this point twice without mentioning it. He also compares V, 27, 12 (the transition to the account of the victor statues); Gurlitt, however (*op. cit.* p. 392), explains this last section as due to a later revision of Pausanias' work.

though in a different sense of the word from that intended by Dörpfeld.

From a study of these two routes, and a comparison of the dates of the victorious athletes,¹ we can draw the following conclusions as to the positions of the victor statues mentioned by Pausanias at Olympia:

1. The twenty-eight oldest statues—exclusive of the five already mentioned as having been removed from the area of the later temple of Zeus²—dating from Ol. 58 (= 548 B.C., Pythocritus, 128 b) to Ol. 76 (= 476 B.C., Theognetus, 83), *i.e.* down to the approximate date of the founding of the temple,³ stood in the space between the eastern front of the temple and the Echo Colonnade, or to the south of it near the South Altis wall. Only one statue (that of Protolaus, 48) stood as far north as the Eretrian Bull. Thus the southeastern part of the Altis was the oldest part dedicated to victor statues.

2. After this space was mostly filled, the next statues, those dating from Ol. 77 (= 472 B.C., Callias, 50) to Ol. 93 (= 408 B.C., Eubotas, 75), *i.e.* from about the time of the foundation of the temple to near the date of the battle of Aegospotami, fifty-one in number, stood between the Heraeum and the Victory of Paeonius; only one stood as far south as the Altis wall, while seven stood around the Chariots, ten around the Victory, twenty around the Bull, and the rest further north (including 176, 185 of the second ἔφοδος, which stood north of the eastern end of the temple). Diagoras and his family (59–63) had their statues near the older famous wrestler Euthymus (56); Alcaenetus and his sons (64–66), besides many other pugilists, had theirs near the Diagorids; Tellon (102) had his near that of his compatriot Epicradius (101); later Achaeans had theirs near that of their countryman Oebotas (29), and Spartans near that of Chionis (111); some, as the three victors from Heraea (176, 177, 32), stood far apart only apparently, for the last one

¹ See the catalogue in my *De Olymp. Stat.* (pp. 3 f.) for dates, and cf. pp. 72 f. for results. The summaries are made only on the basis of the one hundred and fifty-three monuments which can be exactly or approximately dated.

² Eutelides (148), Praxidamas (187), Rhexibius (188), Polypithes and Caliteles (160–161).

³ On the date of the temple of Zeus (468 B.C.–456 (?) B.C.), cf. Dörpfeld, *Ol. Ergeb.* Textbd. 2, pp. 19 ff.

had his statue near the Bull, and so not far from the other two, though these are named in the second ἔφοδος.

3. From near the date of the battle of Aegospotami, down to the time of Alexander the Great, *i.e.* Ols. 94–106 (404–356 B.C.), thirty-six statues filled in the intervals left among these older statues; fifteen stood near the Heraeum, five between it and the Bull, seven around the Bull, five around the Victory, one near the Chariots, and three along the South Altis wall. Euthymenes and Critodamus (70, 80) had their monuments near that of their older countryman (79), whose statue was made by Myron; the Ephesians Pyrilampes and Athenaëus (35, 36) had their statues beside that of their benefactor Lysander (35 a).

4. After Alexander's time, in consequence of the recent building of the Philippeum, Leonidaëum, and Theecoleum to the west of the Altis, the western side of the temple of Zeus (and, to a lesser degree, the northern) became important, and henceforth statues surrounded the temple on all sides. Of the thirty-three statues of this epoch, nine stood to the west of the temple, four to the north, seven to the south, while the rest stood either to the east or near the Heraeum. We shall see also that many later statues, known to us from inscriptions only, stood outside the Altis, to the west and northwest.

II. STATUES NOT MENTIONED BY PAUSANIAS. — Having established these data, it is not difficult, from the positions of the many inscribed fragmentary bases found at Olympia and referred to victor statues not mentioned by Pausanias, from the approximate dates of the victories as gained from the age of the inscriptions, and by again employing the system of groups already mentioned, to state quite definitely where many of these statues stood. Pausanias, who mentions 188 victors with 192 monuments in his two ἔφοδοι, expressly states that he enumerates only those "who had some title to fame or whose statues were better made."¹ The reasons for his selection and the fact that he mentions the statue of no athlete certainly later than the middle of the second century B.C.,² though we know

¹ VI, 1, 2, and cf. his words in VI, 17, 1.

² The three latest statues of victors whose dates are fixed are those of Clitomachus (146), who won in Ols. 141–142, Caper (150), who won in Ol. 142, and Acestorides (119), who won in Ols. 142–144 (= 212–204 B.C.): still later statues,

from inscriptions that statues were set up far into the third century A.D. at least,¹ have been the subject of much discussion but do not concern us here.² The words of Pliny, "Olympiae, ubi omnium, qui vicissent, statuas dicari mos erat" (34.16), refer, of course, only to the right and not to the actual fact, for many victors would have no statues, as it was necessary for them or their relatives or city-states to meet the expenses of their erection.³ No more is the rest of his statement, viz. that those victors who were victorious three times had the right to erect portrait statues in their honor, to be taken literally, for we have at least one exception.⁴ Besides we know that portrait statues were practically unknown before the fourth century. Most of the victor statues were mere types — those of Hermes and Heracles being most common — whose dates cannot be exactly determined, are those of Sodamus (42), who won ? Ols. 142-145, Amyntas (40) in ? Ol. 146, Timon (152) in ? Ols. 146-147, and Lysippus (162) in ? Ols. 149-157 (= 184-152 B.C.).

Of the first century A.D. Pausanias mentions three victors, though without statues: Artemidorus (125 a), who won in Ol. 212, Polites (111 b) in Ol. 212, and Hermogenes (111 a) in Ols. 215-217 (= 81-89 A.D.); see Hyde, *op. cit.* catalogue, pp. 3 f.

¹The last known victor statue at Olympia is that of Valerius Eclectus of Sinope, four times victor as herald, winning in Ols. 256, 258, 259, 260 (cf. Förster, Nos. 741-744). Philumenus of Philadelphia in Lydia, victor in wrestling (?), in Ol. 288 (?) = 373 A.D. (cf. Förster, No. 750), had a statue, as we learn from the conclusion of an epigram preserved by Panodorus in Cramer's *Anecd.* II, p. 155, 17 f.; cf. *Inscr. Metr. Gr.* ed. Preger, No. 133). It may not have been in Olympia.

²On his use of older lists of victors cf.: P. Hirt, *De fontibus Pausaniae in Eliacis* (Greifswald, 1878), pp. 12 f.; Mie, *Quaestiones Agonisticae* (Rostock, 1888), pp. 17 f.; Kalkmann, *op. cit.* pp. 103 f.; Gurlitt, *op. cit.* p. 426, note 43; Robert, *Hermes*, XXIII, p. 444; Hirschfeld, *l.c.* pp. 105 and 111; J. Jüthner, *Philostratos über Gymnastik* (1909), pp. 60-74 and 109 f.; E. Norman Gardner, *Greek Athletic Sports and Festivals* (1910), p. 50. Pausanias frequently mentions such sources himself, e.g. III, 21, 1, V, 21, 9, VI, 2, 3. Hirschfeld (*l.c.* pp. 105 and 113) and others have doubted whether Pausanias had been in Olympia at all.

³Cf. Dittenberger and Purgold, *Ol. Ergeb.* Textbd. (*Inscr.*) V, p. 235. Pausanias in VI, 1, 1, distinctly states there are not statues of all victors, adding that some of the most distinguished had none.

⁴The epigram on the base of the monument of Xenombrotus (133) stated it was a portrait of the victor (cf. VI, 14, 12), though we have no record that he was victor more than twice (see *Inscr. v. Ol.* No. 154). The second monument will be mentioned later.

On the basis of three or more victories several victors should have had portrait statues; see e.g. Förster, Nos. 60, 86, 144, 351, 358, 495, 603, 741, 815.

out individualized features, simply representing the various contests by position or some characteristic, *e.g.* the helmet and shield for "hoplite" victors.

Five of these inscriptions have been referred to the sixth and fifth centuries B.C.¹ Of these the inscribed base of Pantares was found near the South Altis wall, and the statue must have originally stood east of the temple of Zeus, near the chariot of Gelo (90), for these two were the only victors from Gela and won in the same contest and at nearly the same date.² The statues of Phricias of Pelinna and Phanas of Pellene, both representing victors in the heavy-armed race, to which I have ascribed two archaic marble heads, the former found west of the temple of Zeus and the latter to the south of it, must originally have stood in the area of the later temple and then have been removed.³ That of an unknown Aeginetan pancratiast, Epitimiadas,⁴ the two fragments of whose base were found, one near the Heraeum and the other to the east of the temple of Zeus, should have stood near the statues of the only other pancratiasts of a similar age, either by those of Dorieus (61 = Ol. 87-89) and Damagetus (62 = Ol. 82-83) in the zone of the Bull, or by that of Timasitheus (82 = Ol. (?) 65-67) in the zone of the Victory. Lastly, a second inscribed base of Xenombrotus (133), found near the Council House outside the South Altis

¹ For dates, places of finding, and contests, references are constantly made by number to Dittenberger, *Inscr. v. Ol.*; the number of each victor is given also from Förster's lists, which, though incomplete, are the latest that have yet appeared (Zwickau Program, 1891-1892). Where the exact dates are known they are cited from Förster.

² See *Inscr. v. Ol.* No. 142 (Pantares, son of Menecrates of Gela). Förster, No. 149 = Ol. 67 (?). Gelo won Ol. 73.

³ Phricias won twice; cf. Förster, Nos. 151 and 155 = Ols. 68, 69. My ascription of this head has already been noted. Phanas was three times victor on the same day (*τριαστής*) in the *στάδιον*, *διὰυλον*, and as *ὀπλίτης* in Ol. 67; cf. Förster, Nos. 144-146. For this head see *Ol. Ergeb.* Tafelbd. III, pl. VI, 9-10. As it is more archaic than the former, I have ascribed it to the elder victor. Cf. Hyde, *op. cit.* p. 43.

⁴ See *Inscr. v. Ol.* No. 150, . . . *adas*. Röhl, *I. G. A.* 355 and add. p. 182, wrongly ascribed this mutilated inscription to Agiades (103), who won Ol. 72-74 (?) (Förster, No. 519, dated it Ol. 161 (?), following Röhl). Robert, *Hermes*, XXXV, p. 181, identified it with Epitimiadas of the Oxyrhynchus papyrus, who won Ol. 78 in the *παγκράτιον*. Both Dittenberger and Löwy, *Inscr. d. gr. Bild.* No. 416, refer it to the first half or the middle of the fifth century.

wall, doubtless once stood near the first along this wall to the east of the base of Telemachus.¹

No inscribed fragments of bases dating from the fourth century have been found.

Beginning with the third century, we shall see that most of the recovered bases were found either in the western part of the Altis, in the neighborhood of the Philippeum, Theecoleum, and Leonidaem, on both sides of the Altis wall, or still farther west and northwest, especially in or near the Palaestra and the Prytaneum. We have already seen that most of the statues named by Pausanias dating from Alexander's time stood to the west (and north) of the temple of Zeus. As Pausanias only enumerates statues ἐν δεξιᾷ of his route around the temple to the Great Altar, these statues farther west and northwest are omitted from his account. Of the four bases of statues referred to the third century, all belong to Elean victors; three were found west and northwest of the Prytaneum and beyond, showing that these statues once stood in the vicinity of this building, and the fourth was found farther south, by the Palaestra, where it probably stood.²

Of the four statues referred with certainty to the second century, all but one were found to the west of the Altis, ranging from the Philippeum northwest of the temple of Zeus to the Leonidaem; two of them were found outside the West Altis wall, between the Leonidaem and Byzantine church.³

Of the seven bases referred to the second and first centuries B.C., three were found in or near the Byzantine church, show-

¹ See *Inscr. v. Ol.* No. 170; for the second monument to Xenombrotus mentioned by Pausanias, cf. Hyde, *op. cit.* p. 53.

² See *Inscr. v. Ol.* Nos. 175 (Nicarchus, son of Phyllias, πάλην, Förster, No. 375; base found in a late wall west of the Prytaneum. Förster's proposed dating, *Ol.* 110 = 340 B.C., is wrong); 180 (unknown victor, son of Taurinus; base found at the southeast corner of the Palaestra); 181 (unknown victor, son of . . . phinus; base found in the "Nordwestgraben"); 182 (Thersonides, son of Paeanodorus, κέλῃτι πωλικῷ; base found northwest of the Prytaneum).

³ See *Inscr. v. Ol.* Nos. 185 (Dgonus, twice victor in πύξ; base found outside the apse of the Byzantine church, west of the West Altis wall); 187 (unknown boy victor, πάλην, or παγκράτιον; base found in the East Byzantine wall); 188 (unknown victor, συνωρίδι τελεία, ἄρματι τελεία; base found south of Philippeum); 189 (unknown victor, son of Aegyptus of Elis, πάλην; base found northeast of the Leonidaem).

ing that statues may have stood in the Greek building later converted into the church;¹ two more were found near the southwest corner of the Altis, and may therefore once have stood near the statue of Philonides mentioned by Pausanias in that vicinity; two others stood farther away, one inside the Prytaneum, the other northeast of the temple of Zeus.²

The positions of the twenty-four bases (belonging to monuments of twenty-two victors) found and with certainty referred to the first pre-Christian century were very scattered.³ One

¹ This Greek building dates from the first half of the fifth century B.C. Cf. Adler, *Ol. Ergeb.* Textbd. II, pp. 93-105, and Flasch, *l.c.* pp. 1070 f. and 1104 m. f., both of whom identify it with the workshop of Phidias; Curtius, *Die Altäre v. Ol.* p. 20 (= gesamm. Abhandl., 2, pp. 57 f.), refers it to the Theecoleum, generally identified with the easternmost of the two buildings further north.

² See *Inscr. v. Ol.* Nos. 190 (unknown victor, son of Aristotle, *συνωρίδι πωλικῇ*; base found in front of north side of Byzantine church); 192 (Aristodamus, son of Aleximachus of Elis; base found in floor of church); 193 (unknown victor; base found northeast of the temple of Zeus); 194 (.....chus, son of Nicodromus of Elis, *συνωρίδι πωλικῇ*; base found southwest of the Altis before the West Altis wall); Förster, No. 484; 195 (unknown victor from Elis; base found in the Prytaneum); 196 (unknown victor from Elis; base found northwest of church); 197 (Antigenes, son of Jason of Elis, *συνωρίδι πωλικῇ*; base found in southwest corner of the Altis; Förster, No. 808).

³ See *Inscr. v. Ol.* Nos. 191 (Agilochus of Elis, *κέλητι πωλικῷ*; base found in the East Byzantine wall; Förster, No. 807); 198-204 (family group of Philistus of Elis, all in "horse" contests; one bathron for all, one fragment of which was found southwest of the Pelopium, four others south of the Philippeum; names (one not preserved) given in Förster, Nos. 542-547 (one, Telemachus, son of ...leon, had another statue, see *Inscr. v. Ol.* No. 406); 205 (Philonicus, a son of Philistus; base also found south of the Philippeum; Förster, No. 822); 206 (unknown son of Philistus, base found west of the Prytaneum; Förster, No. 828); 207 (Charops, son of Telemachus; place of finding unrecorded); 208 (Aristarchus; base found east of the Byzantine church); 209 (Damaithidas, son of Menippus of Elis; *συνωρίδι πωλικῇ*; base found west of the Council House; Förster, No. 482); 210 (Thrasymachus or Thrasymedes; base found in the "Nordostgraben"); 211 (Democrates of Antioch, Caria; base found in the Cladeus); 212 (Demo....; base found northeast of the Prytaneum); 213 (Thaliarchus, son of Soterichus of Elis; *πύξ παιδων και ἀνδρῶν*; base found east of the Council House; Förster, Nos. 614, 619); 214, 215 (Menedemus, son of Menedemus of Elis, *συνωρίδι πωλικῇ*; two statues, one found east of the temple of Zeus, the other in the Heraeum); 216, 217 (Lycomedes, son of Aristodemus of Elis, *συνωρίδι πωλικῇ*; two statues, one base found in front of the West Byzantine wall, on the south side of the temple of Zeus, the other in the "Westgraben"; Förster, No. 550); 218 (Archiadus, son of Timolas of Elis; *κέλητι πωλικῷ*; base found southwest of the temple of Zeus, on the terrace wall; Förster, No. 535);

large Pentelic marble *bathron*, supporting the monuments of seven victors of the family of Philistus, must have stood just south of the Philippeum, where most of the fragments were found. The bases of the statues of two other sons and a grandson of the same victor have been recovered, and doubtless stood near by, thus forming a family group of ten, outnumbering that of Diagoras (59-63 and 52) mentioned by Pausanias. The omission of so important a monument in the description of the periegete has been used as an indication of his employment of earlier lists. Of the other bases, two were found outside the South Altis wall, west of the Council House, and two east of it; two east of the temple of Zeus (one of them that of the youthful Tiberius, afterwards Roman emperor, which must have stood near the Eretrian Bull, where it was found); one southwest of the temple, along the South Terrace wall, pointing to a position among the statues there named by Pausanias; one east of the Byzantine church, pointing to a position south of the Theecoleum; two to the northwest of the Altis, in the vicinity of the Prytaneum, while the rest were scattered from the northeastern part of the Altis to the bed of the Cladeus. Thus over half (13) of these statue bases were found in the west and northwest of the Altis and beyond; the space to the east of the temple of Zeus — called “*frequentissimus celeberrimusque*” by Scherer — seems now not to have been greatly prized. Most of these victories were in “horse” contests. Horse racing had early been discontinued, but was now revived in the first century B.C., when members of the imperial family, emulating the earlier triumphs of the princes of Sicily and Macedonia, became competitors. Thus Tiberius won in the chariot race, and a few years later his son Germanicus in the same event.

Nineteen inscribed base fragments have been referred to the post-Christian centuries, thirteen to the first, three to the second, and three to the third.¹ The spaces around the temple of

219 (unknown victor, son of crates of Miletus, *δίαυλον*, Ol. 190 = 20 B.C., base found near the “Osthalle”; Förster, No. 593); 220 (Tiberius Claudius Nero of Rome; *τεθρίππων*, base found south of the Eretrian Bull; Förster, No. 601 = Ol. 194? = 4 B.C.).

¹ Of the first century A.D.: see *Inscr. v. Ol.* Nos. 221 (Germanicus Caesar, son of Tiberius, *τεθρίππων*, Ol. 199 = 17 A.D.; base found east of temple of Zeus, north of Eretrian Bull; Förster, No. 612); 222 (Gnaeus Marcius; base found

Zeus (especially its eastern front) are again the favorite ones. For, the bases of three statues were found east of the temple (one *in situ*), two near its southeastern corner, three at the northeastern corner (one, that of Germanicus Caesar, son of

opposite the southeast corner of the temple; Förster, Nos. 585, 587); 223 (Marcus Antonius Calippus, Pisanus, son of M. Antonius Alexion, of Elis; κέλητι πωλικῶ, Ol. 177 = 72 A.D.; base found in the West Byzantine wall at the southwest corner of the temple; Förster, No. 568); 224 (Polyxenus, son of Apollophanes of Zacynthus; πάλην παίδων; base found at southwest corner of the Altis; Förster, No. 823); 225 (P. Cornelius Ariston, son of Eirenaeus, of Ephesus; παγκράτιον παίδων, Ol. 207 = 49 A.D.; base found in front of the north wall of the Palaestra; Förster, No. 632; two epigrams preserved, cf. Cougny, *Anth. Pal.* III, p. 26, No. 169); 226 (Tiberius Claudius Aphrodeisius of Elis(?); κέλητι τελείῳ, Ol. 208 = 53 A.D.; base found *in situ* east of the temple of Zeus; Förster, No. 634); 227 (Nicanor, son of Socles of Ephesus; παγκράτιον παίδων, Ol. 217 = 89 A.D.; four fragments of base found east of the temple and one near its southeastern corner; Förster, No. 666); 228 (Marcus Deida of Antioch; πάλην παίδων, Ol. 219 = 97 A.D.; base found southeast of temple; Förster, No. 671); 229, 230 (unknown victor; δίαυλον and three times as ὁπλίτης; base = 230 [229 older inscription] found in the North Byzantine wall; Förster, Nos. 624-625); 231 (Hermas, son of Ision of Antioch; παγκράτιον; base found between West Altis wall and southeastern corner of Palaestra; Förster, Nos. 595-597); 232 (Diogenes, son of Dionysius of Ephesus; σάλπιγγι five times; base found before middle of Echo Colonnade; Förster, Nos. 815-819); 234 (unknown victor; πάλην or παγκράτιον; inscribed fragment of bronze leg of statue found near the Stadium); 235 (unknown victor; inscribed fragment of bronze leg of statue found near the fifth column from the east on the north side of the temple; cf. Dittenberger, pp. 346-347).

Of the second century A.D.: see *Inscr. v. Ol.* Nos. 233 (Casia Mnasi-thea, daughter of M. Betlinus Laitus of Elis; ἄρματι πωλικῶ; base found northeast of Prytaneum); 236 (L. Mincius Natalis of Rome; τεθρίππῳ and ἄρματι τελείῳ, Ol. 227 = 129 A.D.; large pedestal found in east wall of the Palaestra; Förster, No. 686; Gurlitt, *op. cit.* 421, and Förster think this statue is mentioned by Pausanias, V, 20, 8. Dittenberger is against this view, and the place of finding is also against it); 237 (P. Aelius Artemas of Laodicaea, κήρυξ; Ol. 229 = 137 A.D.; base found 20 m. north of northeastern corner of temple of Zeus; Förster, No. 692).

Of the third century A.D. (after the time of Pausanias): see *Inscr. v. Ol.* Nos. 238 (P. Aelius Alcandridas, son of Damocratides of Sparta; πάλην (?) twice; base found northeast of Byzantine church; Förster, Nos. 679-681); 239 (Theopropus of Rhodes; ἵππῳ; base found east of the temple; epigram from his statue preserved, cf. Cougny, *Anth. Pal.* III, p. 46, note 284; Förster, No. 746); [240-241 = inscription on a bronze discus, votive (not victor) offering of P. Asclepiades of Corinth; see Förster, No. 739; he was victor in the πένταθλον in Ol. 255 = 241 A.D.] 242-243 (Valerius Eclectus of Sinope; κήρυξ, Ols. 256, 258-260 = 245, 253-261 A.D.; base found *in situ* in Palaestra; Förster, Nos. 741-744).

Tiberius, just to the north of the Eretrian Bull, and so originally standing here near that of his father), while another stood opposite the fifth column from the east on the north side of the temple. Most of these statues must have been passed by Pausanias in his first ἔφοδος, which is another evidence of his use of older lists in compiling his own. Two other bases were found to the southwest of the temple, one of them near its corner, and the other nearer the corner of the Altis, near the base of Philonides. Thus eleven statues stood near the temple. Of the others, four were found in the vicinity of the Palaestra (one inside *in situ*), one to the northeast of the Prytaneum, another northeast of the Byzantine church, while the two remaining ones were found in the eastern part of the Altis, near the entrance to the Stadium and before the Echo Colonnade respectively. The last statue of a victor known to have been erected at Olympia, that of Valerius Eclectus of Sinope, was found *in situ* in the Palaestra.

A study of these inscriptions shows that the practice of setting up victor statues decreased in the fourth and third centuries B.C., but was revived in the second and first, only to decrease again after the first century A.D. On the other hand, the inscriptions show that the number of "honor" statues correspondingly increased. Of the late statues, most were erected to Eleans; names of victors from Sicily and Italy and from the older Greek states, as Sparta and Athens, are rare, being replaced by those from Asia Minor and the newer towns of the Greek mainland. This falling off of interest in the games was, of course, due to professionalism. In the second century B.C. we begin to read in the inscriptions of *περιοδοῦνται*, i.e. victors winning prizes at all the four national games, a sure indication of the professional spirit. Even Pausanias mentions two such victors.¹

From these inscribed base fragments, we have knowledge of

¹ Philinus of Cos (173) won 24 victories, 5 at Olympia, 4 at Delphi, 4 at Nemea, 11 at the Isthmus, mostly in the stadium race. He won in Ols. 129, 130, cf. Paus. VI, 17, 2 (Förster, Nos. 441-442; Leonidas of Rhodes (111 c) was *τριαστής* in 4 different Ols. (154-157), winning 12 races; cf. Paus. VI, 13, 4 and Förster, Nos. 495-497. On the subject of professionalism, cf. E. N. Gardner, *op. cit.* pp. 160, 161, and others.

61 victors (63 monuments)¹ who had statues erected to them, though they are not named in the lists of Pausanias. Of the 192 monuments mentioned by Pausanias, 40 are known to us from recovered fragments of bases and statues. So if we assume the same ratio between known and unknown for those not mentioned by Pausanias, we should have the proportion $40 : 192 :: 63 : x$, where x would equal 302, making a grand total of 494 monuments, which number cannot be far from the actual number of statues adorning the Altis.²

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¹Omitting the bronze discus of the victor P. Asclepiades of Corinth (*Inscr. v. Ol.* Nos. 240, 241).

²Förster (II, p. 30) records only 634 victors from all sources.

METHODS OF DETERMINING THE DATE OF
ROMAN CONCRETE MONUMENTS¹

(FIRST PAPER)

FOR the dating of ancient monuments, the evidence used is of three classes: internal, external, and a third class which may be called variable evidence. With the nature of the second class, the external evidence, which is, for the most part, literary, all are familiar. The evidence which has been called variable is that furnished by decoration or decorative material, by dedicatory inscriptions, and especially by brick stamps. All these, *when incorporated in or belonging to the structure of the monument*, may be accepted as internal evidence; when, however, they form a nonstructural part of the building or are merely attached to it, they cannot be given more weight than that of external evidence.² Upon the second of the three classes, that of external evidence, the conclusions of the earlier writers on topography were almost wholly based. Since the beginning of the new era of excavation, however, increasing attention has been paid to the third, or variable, class of evidence,

¹ The discussion presented in this and in the following article is merely a preliminary study for a more exhaustive treatment of the subject to be published later. On account of the vastness of the field and the small portion of it as yet investigated, the results here given, especially the canon, or norm, of construction for the different periods, though in the main features certain, must inevitably be modified and corrected in many details by later investigation.

² Such evidence, however convincing it may appear, cannot by itself be regarded as conclusive. The distinction here suggested is especially vital in dealing with brick stamps. Brick stamps, in order to be accepted as authoritative evidence in dating a monument or part of a monument, must be found not only *in situ*, but incorporated in a structural part of the building and that, too, of the original building. Even then, on account of the use at all periods, whenever feasible, of old material, the evidence of brick stamps is of value only in establishing a *terminus a quo* for the date of the erection of a building. Lack of attention to these facts has led to many of the present errors in the chronology of the monuments.

especially by that famous group of German scholars of which Jordan was the center, whose important work forms the basis of our present knowledge of the chronology of the ancient monuments. The first class, that of purely internal evidence, has received, up to the present time, but little attention.

Internal evidence may be considered, in general, as of four kinds. The first of these is that established by the relation of the building or portion of a building in question to the buildings above and below it, as well as to those adjoining it on the same level, — in brief, the structural environment of the monument.¹ Evidence of the second kind rests upon the harmony — or the absence of harmony — in the general plan of the building itself, and the architectural relation of the various parts of it to each other and to the whole. The third class of evidence is that drawn from the structural unity or lack of unity of the monument, as well as from the uniformity or diversity of its materials and methods of construction, while the fourth is furnished by the character of the materials and by the methods of construction.

The realm of knowledge dependent upon the study of the last two kinds of evidence, especially that dealing with the character of the materials and the methods of construction, has remained up to the present time, in large part, a *terra incognita*, although, from time to time, excursions, most often merely tentative, have been made into it.² A more exhaustive investiga-

¹ Concerning the structural environment, especially the level and orientation, of the monuments excavated at an earlier time and now inaccessible, if not destroyed, exact data are almost wholly wanting. The present administration is marked by the endeavor to render the records more nearly complete in these as in many other important details.

² Among the earlier works, those of Nibby and Corsi alone are conspicuous: Antonio Nibby, *Dei Materiali impiegati nelle fabbriche di Roma, delle costruzioni, e dello stile* (Roma Antica, I, pp. 234 ff.). Faustino Corsi, *Delle pietre antiche*. The introductory chapters of Middleton's *Remains of Ancient Rome* (1892) merit special mention, on account of the writer's sympathetic treatment of the problems involved and accurate technical knowledge of the material dealt with. As a general discussion of the subject, Durm's *Die Constructionen* (*Baukunst der Etrusker und Römer*, 1905, pp. 179 ff.) is invaluable. A number of recent works, also, dealing with individual monuments or groups of monuments, promise a new era of more accurate observation. Conspicuous among these is the work of Germain de Montauzan, *Les Aqueducs antiques de Lyon*, Paris, 1909.

tion in this field, more especially concerning the materials themselves and the methods used in concrete structures, has seemed, therefore, of primary importance, in order to confirm or, if need be, to correct the conclusions which have been drawn from the other and time-honored classes of evidence. The purpose of the investigation has been twofold: (1) the study of the materials and methods of construction *per se*, and (2) the establishment of a fixed canon, or norm, of construction for the various periods, by which the accepted chronology of the concrete monuments already known may be tested, and dates assigned more easily to new-found or as yet undated monuments.

Roman concrete structures are divided, for the sake of convenience, into two classes, those made (1) of unfaced and (2) of faced *opus caementicium*.¹ In the first class may be included (1) foundations and substructures, for monuments both of *opus quadratum* and *opus caementicium*, (2) *podia*, (3) free-standing walls which, from their position or use, were regarded as substructures, and (4) vaults. The second class may be divided into walls faced with *opus quadratum*, *opus incertum*, *opus reticulatum* (including *quasi reticulatum*), *opus testaceum*,² and *opus mixtum*. In dealing with monuments of the second class, the body of the structure and the facing must be considered separately, since the distinctive characteristics — the “earmarks” — of the various periods are to be found now in the one and now in the other. There are cases also, which are by no means rare, where a wall of a certain period has been refaced at a later time. A notable example of this occurs on the south side of the exedra of the Hippodrome on the Palatine, where a considerable stretch of wall of the period of Domitian has been covered by a facing of the time of Septimius Severus. This facing, in its turn, is at present in danger of yielding

¹ The name used by Vitruvius for the whole class of construction is *caementicia structura* (*De Arch.* II, IV, 1; II, VII, 5). *Opus caementicium*, which occurs in inscriptions (*C.I.L.* III, 633), has been, however, adopted in this discussion, since it is already in use.

² The *structura testacea* of Vitruvius (*l.c.* II, VIII, 17, 18) may be included under this general heading. It differs, however, from *opus caementicium* faced with *opus testaceum* in that the name refers primarily to the body of the wall, the *caementa* of which are of the same material as the facing.

place soon to a modern one, as can be seen in the following illustration (Fig. 1).

The body of a Roman concrete structure, whether faced or unfaced, is composed of pieces of stone, called by Vitruvius



FIGURE 1. — A REFACED WALL.¹

caementa,² or of brick laid in a bed of mortar, which together form a solid unified mass,³ the *opus caementicium* of the Romans (Fig. 2). The *caementa* vary much in material and in size, in the different periods, as well as in the manner of their disposal in the mass. In the periods marked by a full mastery of the

¹ The facing of larger bricks on the left is of the time of Domitian; the finer facing on the right is the work of the period of Severus.

² *L.c.* II, IV, 3; II, VIII, 1, 2. In the *structura caementicia* of Vitruvius, the *caementa* were wholly of stone. When roof-tiles were used, the mass was called by him *structura testacea*. The use, for this purpose, of bricks other than those made from tiles did not even arise, at least in Rome, till after his time. For the sake of simplicity, the term *caementa* is used here, however, for all forms of filling.

³ The concrete construction of the Romans should not be confused with modern rubble, from which it differed essentially.

technique of the construction, the *caementa* differed also, according as they were used in foundations and *podia*, free-standing walls, or vaults. Since they consist, in great part, of the rejected or broken materials of the preceding period, they furnish, in many cases, valuable data, not only concerning the



FIGURE 2. — AN UNFACED WALL OF OPUS CAEMENTICIUM OF THE PERIOD OF NERO.¹

monument in which they are found, but also concerning the earlier building of which they formed a part. In the Regia of Calvinus,² for example, the *caementa* of the lower walls, contrary

¹ The section of wall here shown is from one of the massive concrete substructures on the Velia (see Platner, *Topography and Monuments of Ancient Rome*, 1911, pp. 311-312).

² 36 B.C.

to the rule of the period,¹ consist wholly of large pieces of *cap-pallaccio*, the inferior tufa which was used almost exclusively in very early buildings. We may safely conclude, therefore, that the earlier building which the Regia of 36 B.C. replaced had retained wholly or in part its very primitive walls.

The mortar is composed of *pozzolana*, which is called by Vitruvius *arena fossicia*,² and lime. The data derived from this *pozzolana-arena*, the varieties³ of which used in the various periods differ widely, are often of great importance. A most striking example of this is to be found in the monuments of the Augustan period, in which one of the distinctive characteristics of the construction, the dusky red color of the mortar,⁴ arises from the use in it of a special variety of *pozzolana*,⁵ the introduction of which by Augustus, or by his predecessor Julius Caesar, marks an epoch in the history of concrete construction. The lime also differs much, in the various periods, in quality⁶ as well as in quantity.⁷

The facing of concrete monuments varies greatly in the different periods. With the increase of knowledge in the manufacture and use of concrete, or *opus caementicium*, as we may more safely call it, and the corresponding decrease in the structural value assigned to squared stone, or *opus quadratum*, arose the use of the latter as a mere facing. In consequence of this change, certain structures, for reasons of economy, were left practically unfaced,⁸ or were faced with small stones, as a substitute for the more costly *opus quadratum*. In place of

¹ See the following article for the period of Augustus.

² *L.c.* II, IV, 1. The name *pulvis Puteolanus*, the modern *pozzolana*, was confined by the ancients to the volcanic earth found near, or shipped from, Puteoli (Seneca, *Quaest.* III, 20, 3; Pliny, *N. H.* XXXV, 167). The volcanic origin of the *pozzolana* found near Rome, as well as many of its most valuable properties, were unknown to Vitruvius.

³ For the varieties of *pozzolana*, see *Vitr. l.c.* II, IV, 1.

⁴ See the following article, for the period of Augustus.

⁵ The *arena rubra* of Vitruvius (*l.c.* II, IV, 1).

⁶ See Vitruvius, *l.c.* II, V.

⁷ For the proportion of lime in the Augustan period, for example, see Vitruvius, *l.c.*

⁸ In the earlier *opus incertum*, the character and arrangement of the pieces of stone forming the facing do not differ materially from the character and arrangement of the *caementa* in the body of the wall. The structure may be regarded as in a technical sense unfaced.

this facing of small stones, the *opus incertum* and *opus reticulatum* of the late republican and Augustan periods, brick-facing was introduced. With this class of concrete monuments, especially those faced with brick, the present discussion is, in the main, concerned.

In the facing of concrete structures of this last type, the bricks used in Rome are of two distinct kinds. The first of these is that made from broken *tegulae*,¹ or flanged roof-tiles, and, at a later time, from the larger floor-tiles called *tegulae bipedales*.² These bricks, to which may be applied the name tile-bricks, are roughly broken except on the front side, which is evenly sawed.³ In the earlier periods, they are more often irregularly trapezoidal in shape; but after the introduction of triangular bricks they tend to approach the triangular form. The bricks which are made from roof-tiles are conspicuous for their fine composition, even, close-knit texture, and clear magenta-red⁴ or light yellow color; those made from *bipedales* — which belong to a much later period — are of coarser composition and vary considerably in color. The bricks of the second kind used in wall-facing are triangular in shape, and, in Rome, are made by sawing diagonally into two pieces smaller square tiles, or bricks, measuring from 19–22 cm.⁵ Outside of Rome, notably in Pompeii and Sicily, square tiles of various sizes were used, which were sawed into four triangles.⁶

¹ Vitr. *l.c.* II, VIII, 19.

² *L.c.* V, X, 2; VII, IV, 2.

³ The use of the saw in the manufacture of facing bricks was clearly recognized by Piranesi (*Ant. Rom.* III, Tab. V.), though he failed to recognize the various kinds of bricks so treated. The presence of sawed roof-tiles in wall-facings is recognized, also, by Boni (*Atti del. Cong. Stor.* V, 55 f.). Cf. Mau's description of the tiles used in the Rostra Augusti as *zurechtgehaueene Stücke von Dachziegeln* ('Rostra Caesaris,' *Röm. Mitt.* XX, 3, p. 258). The use of sawed bricks is very common in Pompeii, also.

⁴ The color is hard to define. It tends, however, toward brownish rather than yellowish red.

⁵ These square tiles, though in the early empire they usually exceed 20 cm, in size, are probably the *laterculi bessales* (0.197 m.) recommended by Vitruvius (*l.c.* V, X, 2) for the building of hypocaust pillars. Of their use in wall-facing, there is no trace in his work.

⁶ The two types are easily distinguished. In the Roman triangles the front side alone is sawed, while in the others the two shorter sides are sawed or, in Pompeii, broken, and the front is moulded.

A large number of *bipedales*, marked for sawing, are to be found in both the large and small theatres at Taormina (Fig. 3). A few others, also similarly marked, were seen by me several years ago, in a Roman villa in Corfu. These triangular bricks in Rome are far less fine in composition and



FIGURE 3. — BIPEDALES IN THE LARGE THEATRE AT TAORMINA.

texture than the roof-tile bricks and vary in color from reddish yellow to a deep yellowish red.

In deciding the date of any ancient monument, after a consideration of the external and variable evidence concerning it, its level and orientation and its structural relation to the adjoining monuments must also be determined. Passing, then, to the monument itself, it is necessary first to ascertain whether it consists of a single building or of a group of buildings.¹ For the determination of this question, an examination must be made not only of its architectural plan but also of its structural unity. This structural unity — or better, the lack of it — is

¹ For an example of a complex group of buildings, see Van Deman, *The Atrium Vestae*, Washington, 1909, Plan E.

seen most clearly in the facing, though it is often almost as apparent in the body of the monument. It is shown (1) by a break in the continuity of the concrete mass itself or of the facing, causing often a noticeable crack¹ (2) by a change in the materials and methods of construction, or (3) in both

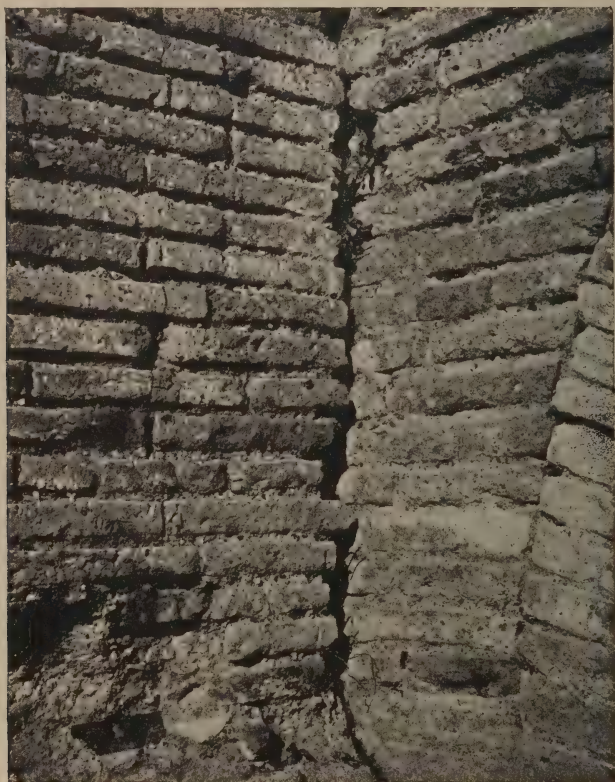


FIGURE 4. — WALLS OF DOMITIAN AND HADRIAN IN THE DOMUS AUGUSTANA.²

these ways. In the body of the building, if no marked difference exists in the type of construction, the break in structural continuity is almost impossible to detect. In the facing, on the other hand, when the break occurs in a straight stretch of perpendicular wall, it is very apparent. When it occurs, how-

¹ See Fig. 6.

² The wall on the right is of the period of Domitian, while that on the left is of the time of Hadrian.

ever, between the stories of a building, or at a corner, as in the accompanying illustration (Fig. 4), it is more difficult to discover, unless accompanied by a noticeable change in material and methods of construction. This difficulty is often still further increased by the presence of a form of false bonding,¹ by which the line of juncture of the two walls was concealed and the parts bound more closely together. A change in the materials and methods of construction is far more readily



FIGURE 5. — REPUBLICAN AND IMPERIAL WALLS ON THE VELIA.

detected. It is traceable, in the body of the structure, (1) in the difference in the material and size of the *caementa*, or filling, as well as in the manner of their disposal in the mass, and (2) in the composition, color, and cohesion of the mortar.² In the facing of the structure, the change is very clear where the types of construction have no superficial resemblance to each other, as in certain remains on the Velia (Fig. 5), in

¹ See Fig. 4.

² Variation in the color of the mortar, as well as many other differences in material, can be most easily detected when the walls are damp.

which the earlier wall of *opus quadratum* has been used as a foundation for one of *opus caementicium* faced with *opus reticulatum*, which, in its turn, has been partly replaced by a later wall faced with brick. The change is less plain where the facing is wholly of brick; it is, however, traceable in the size and kind of bricks used, as well as in the thickness of the joints of mortar and in its composition. Where both a break in the



FIGURE 6. — BRICK-FACING OF THE PERIODS OF DOMITIAN AND SEPTIMIUS SEVERUS.¹

continuity of the mass or of the facing and a change in the type of construction are found, the lack of structural unity and, in consequence, the complex character of the monument are clearly apparent, as in the illustration from the Atrium Vestae given above (Fig. 6).

The simplicity or complexity of the structure having been determined,—in monuments of *opus caementicium* by no means an easy task,—an examination of the internal evidence bearing

¹ The wall on the left is of the time of Domitian, and that on the right, of the period of Septimius Severus. See Van Deman, *Atrium Vestae*, pp. 21 ff., 43 ff.

more directly upon the date or dates of the building is possible. In such an examination a fixed standard, or norm, for each period is necessary, with which the materials and methods of construction used in the monument or in the several parts of it may be compared. The establishment of this standard, or canon, has been, as has been said,¹ one of the main purposes of the present investigation.

For the determination of the data upon which this canon should be based a list was made of all the monuments made wholly or in part of *opus caementicium* which still exist or of which an authoritative record has been kept. A special examination was then undertaken of all those still existing to which, on the basis of external or internal evidence, a fixed date has been assigned. In the case of each of these monuments, so far as it has been possible, the examination has included the following points: (1) the orientation and, where ascertainable, the original level of the building, (2) its structural environment, (3) its architectural plan, and (4) its structural unity. On the basis of the results thus obtained a list of the monuments of *opus caementicium* in each of the greater periods has been compiled, which, though depleted by the loss of a few familiar names found in the handbooks on topography,² is yet sufficiently large for the purpose in hand. A preliminary outline of the main features of this canon, so far as they are at present determined, is here given.³

I. THE KINGLY AND EARLIER REPUBLICAN PERIOD (753-210 B.C.)

Of the kingly and earlier republican period but a few remains are left to which even an approximate date can be assigned. From these, however, it is clear that the same type of construction, which is a ruder form of *opus quadratum*, was continued unchanged throughout the whole period. The material used in the earlier part of the period is *cappellaccio*, the

¹ P. 232.

² Several of the more important of these monuments will be discussed in later articles.

³ The canon of the imperial periods will be presented in a second article.

friable gray tufa found on the slopes of the Palatine and Capitoline, as well as on most of the other hills of the city. The blocks used in the courses are low and broad, and the unit of measure employed is the Italic foot of 0.275 m. The walls seem in all cases to be laid without mortar.

The principal monuments of this more primitive type, concerning some of which, however, considerable doubt prevails,



FIGURE 7. — OPUS QUADRATUM OF THE FIFTH CENTURY.¹

are the following: the portions of the so-called Servian Wall made of *cappellaccio*,² the Tullianum, the foundations of the temple of Jupiter Capitolinus, the ancient cisterns on the Palatine,³ the lower part of the Regia and of the lacus Curtius,

¹ The blocks of *opus quadratum* are of the temple of Castor of the fifth century B.C. The *opus caementicium* immediately surrounding them is of the temple of 117 B.C.

² In addition to the small fragments of this wall on the Palatine (Hülsen-Jordan, *Top.* p. 37, n. 17) and on the Capitol (*l.c.*), a fine stretch of it on the Quirinal was found several years ago (*Not. Scav.* 1907, pp. 504-510; 1909, pp. 221-222); a part of this is still visible.

³ Platner, *l.c.* p. 132.

the republican Rostra of the first period,¹ the earlier sacellum of Venus Cloacina, and the temple of Castor of the first period (see Fig. 7), with the earlier Fons Juturnae.² From their level and orientation, certain other monuments in the Forum and on the Palatine may be assigned to the same period. The most important of these are the pavements and sewers of *cappellaccio* at the lowest level in the Forum.³

The rebuilding of the city which followed its partial destruction by the Gauls in 390 B.C. is probably traceable in a small group of remains, which, while agreeing in their general character with those just described, differ somewhat in details. The type of construction is, as in the earlier buildings, *opus quadratum*. For the *cappellaccio* of the more primitive walls, however, other and somewhat less friable kinds of tufa were substituted, especially a light brownish red and a grayish yellow variety, both of which are very porous and weather badly. The blocks are much higher than in the walls of *cappellaccio*; the unit of measure employed is the Greek foot of 0.296 m. The principal monuments of this group are the later portions of the Servian wall and a few unidentified buildings on the Palatine.

II. THE LATER REPUBLICAN PERIOD (210 B.C. – the period of Sulla)

In the fire of 210 B.C., a large portion of the center of the city was again destroyed. With the erection of the new monuments, in the period following this catastrophe a new era of construction began. Throughout the period *opus quadratum* remained the common type of construction for monumental structures.⁴ Finer varieties of tufa were, however, used and the technique

¹ Hülsen-Carter, *Roman Forum*, pl. V, *Rostra Vetera*. The level of the so-called tomb of Romulus and the square foundation behind it, as well as their type of construction, forbid their inclusion among the oldest monuments of the Forum. The original level of the cippus is uncertain; without this the period is difficult to determine.

² The type of construction of the earlier Fons Juturnae is not absolutely certain.

³ This level is 10.6–10.8 m. above sea-level. A discussion of the levels of the Forum and Velia will be published later.

⁴ Less important monuments and private houses were built of sun-dried bricks (*lateres*, *lateres crudi*) until the time of Augustus (Cic. *De Div.* II, 47, 99, Suet. *Aug.* 28, Dio Cass. XXXIX, 61).

reached a high grade of excellence. Peperino and travertine were both introduced in this period, though the latter was as yet employed very sparingly. Foreign marbles were imported also, but not until very late in the period. The most important monument in *opus quadratum* in the period is the Aqua Marcia, built in 144 B.C.¹

While, however, *opus quadratum* remained the prevailing mode of construction, the period is marked by the first appearance, in Rome, of concrete, or *opus caementicium*, as a structural building material.² The exact time of its introduction cannot be fixed. The first dated monuments in which it has as yet been found are the *podia* of the temples of Concord and Castor,³ of 121 and 117 B.C.⁴ The full mastery of technique in the handling of the new material, as shown in these structures, makes it safe to assume, however, that a knowledge of its use antedated by a considerable period the time of their erection. We may, therefore, assign its introduction to the middle, if not the early part, of the second century. The new material was probably introduced in the first place, as a mere core for buildings of *opus quadratum*. With increasing knowledge of the relative value of the two types of construction, however, the parts shifted and the *opus quadratum* became subsidiary in importance, having, often, little value beyond that of a facing. Before the end of the period, for this more expensive type of facing one of small stone was substituted, to which was applied the name of *opus incertum*.⁵ The exact date of its recognition as a distinct structural factor cannot be determined. It is clear, however, that it was so regarded before the end of the period, that is, before the time of Sulla.

¹ For a full discussion of the technique of this as well as the more important monuments of the following period, see Delbrück, *Hellenistische Bauten in Latium*, Strassburg, 1907.

² The use of *opus signinum* anticipated, doubtless, that of *opus caementicium*. Since it cannot be regarded, however, as a structural building material, it has not been included here.

³ See Fig. 7; the concrete surrounding the *opus quadratum*.

⁴ The date of the existing remains of the temple of Magna Mater on the Palatine is as yet uncertain.

⁵ The term *opus incertum* is used by Vitruvius (*l.c.* II, VIII, I), followed by many modern writers, to designate the body as well as the facing of the structure. To avoid confusion, it is here applied only to the facing.

In the mass, or body, of the structure, the monuments of *opus caementicium* throughout the period show but little change, either in materials or methods of construction. The *caementa* consist largely of the broken or rejected materials from the earlier periods. They are, therefore, almost entirely of tufa, *cappellaccio* and grayish yellow tufa being used in large quantities, with a small amount of the later grayish brown and brownish red varieties. No travertine, bricks, or marble appear, and only occasional pieces of peperino. The pieces are usually above medium size, often exceeding in their greatest diameter 40 cm. No order is shown in their disposal in the mass. The mortar is of an ashy gray type and is very friable.¹ The *arena* used in it varies much in color, gray and brown predominating, while red is almost wholly lacking. It resembles a fine gravel rather than the ordinary *pozzolana*, being composed of smooth instead of sharp-angled particles.² These particles vary much in size, and a large amount of earthy matter is mixed with them. To this admixture of earthy matter in the *arena*, which is, for this reason, called by Vitruvius³ *terrosa*, is due mainly the friability, as well as the gray color, of the mortar as a whole. The lime is of a very dirty-white color, due probably to the earthy character of the *arena*; the proportion of lime is also much smaller than in the later periods.⁴

The earliest dated monument in *opus caementicium*, the podium of the temple of Concord (121 B.C.), is, strictly speaking, unfaced, since the pieces of tufa forming the so-called *opus incertum* of the facing do not differ materially, either in themselves or in their arrangement, from the *caementa* in the body of the structure. The facing of the other monuments, so far as it can be determined,⁵ is of *opus incertum* made of the friable tufa of the period.

The more distinctive characteristics — the “earmarks” — of

¹ For the mortar of the next two periods, see pp. 247, 249.

² Sharpness (*asperitas*) is emphasized by Vitruvius (*l.c.* II, IV, 1, see below, n. 3), as by modern builders, as an essential quality of the best *arena*.

³ *L.c.* II, IV, 1; *quae autem terrosa fuerit non habebit asperitatem*.

⁴ For the proportion of lime in the time of Augustus, see Vitruvius, *l.c.* II, V, 1.

⁵ The facing of the temple of Castor has been wholly destroyed. See Fig. 7.

the structures in *opus caementicium* of the period are the following : (1) the very early type of the materials used in the body of the structure as *caementa*, as well as the absence among them of travertine, bricks, and marble ; (2) the ashy color and friability of the mortar ; (3) the use, in the facing, of *opus incertum*, and its early character, as seen both in the materials used and in the technique.

No complete list has been made as yet of the monuments of the period. The most important of them are : the temple of Concord of the second period, the temple of Castor of the second period, the arches behind the Fons Juturnae, and the so-called *Carceres*.

III. THE PERIOD OF SULLA

Of the works of Sulla as a builder, as well as of the imposing monuments erected by others in his period, a large number are preserved outside of Rome, especially in Palestrina, Tivoli, and Pompeii. The splendid public buildings with which he sought to adorn his capital, on the other hand, are represented only by a few uncertain remains. Of the greater monuments erected by others, also, but one is left, the Tabularium, built by Q. Lutatius Catulus in 78 B.C.

From the character of the monuments erected during the period, it is probable that the majority of them were built wholly of *opus quadratum*. The remains of a goodly number of such monuments, built of the earlier tufas, are, in fact, assigned to Sulla himself, though the proofs are in no case conclusive. In the Tabularium, the only dated monument of the time, both types of construction are used,¹ the substructures and inner walls being of *opus caementicium*. Both types of construction are used also in a small group of monuments in the Forum,² which, from their level and structural environment, may be assigned to this general period. No

¹ It is, however, commonly spoken of as of *opus quadratum*.

² These monuments are the following : the republican Rostra of the second period (Hülsen-Carter, *Roman Forum*, pl. V, "*Rostra Palicani*"), the arches behind the Rostra Augusti, and a number of unidentified remains along the Sacra Via. The lacus Curtius of the second period and a number of fine pavements of grayish brown tufa are of this same time : they are, however, wholly of *opus quadratum*.

exact date, however, can be assigned to them at present. They have not, therefore, been included in the present discussion, though they agree, except in type of facing,¹ with the work of the period.

The outer walls of the Tabularium, which, from its agreement in construction with the Sullan monuments outside of Rome, may be accepted as typical of the period, are of *opus quadratum*. The material used is almost wholly peperino, though travertine is employed very sparingly in the colonnade.

The massive substructures and inner walls are, as has been said, of *opus caementicium*. The *caementa* are almost wholly of brownish red tufa, with little admixture of older materials. The pieces vary considerably in size but are usually large. They are laid without special regard to order. The mortar is of the ashy gray type, but is slightly less friable than that of the preceding period. The *arena* is darker in color and a little less *terrosa* than earlier. No change in the lime is perceptible. The walls are practically unfaced.

IV. THE PERIOD OF JULIUS CAESAR

With Julius Caesar a new era in Roman construction begins. Succeeding to the great plans of Sulla, he formed even greater ones, spurred on, during the earlier years, by the rival efforts of Pompey to win favor with the people by gifts of magnificent public monuments. With the carrying out of these plans,² which included the reconstruction of the Forum, its extension by the erection of the Forum Julium, and the building up of the Campus Martius, a new system of construction gradually arose. The period, however, though marked by this gradual development of new ideas, retained throughout many of the earlier republican methods. It may be called, therefore, the period of transition.

¹ The facing is, in part, of *quasi reticulatum*, which is not found in the Sullan monuments in Palestrina; it is used, however, in certain of the buildings of the period in Pompeii.

² A better opportunity for the carrying out of his plans was afforded Julius Caesar by a destructive fire in 54 B.C. (Orosius, VI, 14), which laid waste a considerable part of the city. Too little attention has been paid to this as well as to the other fires of this general period.

Opus quadratum without admixture of *opus caementicium* was retained in certain monumental structures, as the Basilica Aemilia, the Tabernae Novae,¹ and the Forum Julium.² The materials used almost wholly in these buildings are grayish brown tufa and peperino, with travertine for points of special pressure. In the Basilica and Tabernae, however, the earlier grayish yellow tufa is retained for the foundations. The technique is of a high order. A thin layer of lime is used between the courses to make the fitting of the joints closer. In the larger number of public monuments both types of construction were used, *opus caementicium* being used, as in the Tabularium, for the more massive portions of the structure, while *opus quadratum* was still retained for the external walls and also for the points of special pressure. To this class of monuments belong the theatre and porticus of Pompey, the theatre of Marcellus,³ and, in all probability, the Curia and Rostra Julia. The dawn of the new era is shown most clearly, however, by the increasing prominence given to the third class of monuments, those made wholly of *opus caementicium*. The most conspicuous examples of this class are the *cuniculi* of the Forum (Fig. 8), the concrete foundation near the Equus Domitiani,⁴ and a small group of private houses, of which the earlier Domus Liviae on the Palatine is the most important.⁵

The monuments of the period — so far as it has yet been possible to classify them⁶ — which are made wholly or in part of *opus caementicium* may be divided into two classes. These classes are most easily distinguished by the mortar, which, in the one class, is of a gray color, resembling the ashy gray type

¹ The Tabernae Novae were regarded as distinct from the Basilica Aemilia until a much later time than is usually supposed.

² The vaults of the rooms, or shops, adjoining the Forum Julium are of *opus caementicium*. Since the foundations of the Forum are inaccessible, the type of construction used in them is uncertain.

³ The theatre was finished by Augustus.

⁴ Hülsen-Carter, *l.c.* 144.

⁵ The other members of the group are: the private house on the slope of the Palatine in front of the so-called temple of Jupiter Victor (the lower walls), the house on the Esquiline containing the frescoes representing the *Odyssey* landscapes, and the house near the Villa Farnesina.

⁶ For the rooms adjoining the Forum Julium and the theatre of Marcellus the data are not complete.

of the earlier monuments, though a little darker, while in the other class it is grayish red, approaching more nearly the mortar of the Augustan period.

In the body of the structures of the first class the *caementa* are, in large part, of *cappellaccio* and other friable tufas, the refuse material from the earlier periods;¹ a small amount of the later tufa appears, however, and a very little travertine.



FIGURE 8. — THE CUNICULI AND THE EQUUS DOMITIANI.²

No bricks or marble are found. The pieces vary much in size and are laid with no apparent attempt at order.³ The mortar differs but little in color from that of the Sullan period, but is superior in quality, being of a finer texture and harder. The *arena* is of the same general type as earlier but less *terrosa*.

¹ In the private houses the amount of older material found is much less than in the other monuments.

² The arch in the background is a restoration of the vault of one of the *cuniculi*. The foundation of *opus caementicium* in front is that of the *Equus Domitiani*.

³ In the *Rostra Julia* are found several thin strata of marble chips marking the width of the sections made at one time.

The lime is of a slightly better grade and is more abundant; it retains, however, the dirty-white color of the earlier periods. The monuments belonging to this first class are the foundations of the Curia Julia, the Rostra Julia,¹ the Domus Liviae of the earlier period, and the lower walls of the house below the so-called temple of Jupiter Victor.

In the *opus caementicium* of the second type the *caementa* vary, as in later periods, according to the nature of the structure in which they are used. In the inner walls² of the theatre of Pompey they are of the same brownish red tufa of which the facing is made and are of medium size. In the *cuniculi* and the massive foundation near the Equus Domitiani, which is of the same period,³ the *caementa* are almost entirely of travertine and *selce*, as in the foundations and substructures of the later periods. They are of medium size and are laid with no attention to order. The mortar is grayish red and is almost entirely free from the friability of the earlier type. The *arena* is a true *pozzolana*, consisting of sharp-angled particles, which vary much in size and are often very large. It is but slightly *terrosa*. The color differs greatly from that of the arena of the earlier periods; reddish brown and dark gray predominate, but there is also much red. The lime is much cleaner and more abundant than in the earlier type of mortar.

Opus incertum as a facing does not appear in any monument of the period. Its occasional use at a later time is, however, referred to by Vitruvius.⁴ In its place appears, in both classes of structures, the more elegant *opus reticulatum*, the rise of which may be assigned to this period.⁵ The bits of stone, or tesserae, of which it is formed are very small,⁶ measuring

¹ See Van Deman, *The So-called Flavian Rostra*, *Am. Jour. of Arch.* XIII, pp. 178-179, 186.

² The foundations of the theatre are not accessible.

³ The evidence concerning the date, afforded by the level and by the structural relation of the monument to the *cuniculi* and to the Augustan pavement above it, is conclusive.

⁴ *L.c.* II, VIII, 1: *Structurarum genera sunt haec, reticulatum quo nunc omnes utuntur, et antiquum quod incertum dicitur.*

⁵ According to Nibby (*Roma Antica*, I, p. 275), *opus reticulatum* was first used in the theatre of Pompey.

⁶ A tiny tessera recently found measures but 3 cm. across the face.

usually 4 cm.—6 cm. across the face. They are made commonly of brownish red, though occasionally of the older grayish yellow tufa. The *cuniculi*, except the sides of the square shafts in the vaulting, and the monument near the Equus Domitiani are unfaced.

The main characteristics of the *opus caementicium* of the period are the following: (1) the darker gray or reddish gray color of the mortar and its freedom from the friability of the earlier type; (2) the appearance of *caementa* of travertine and *selce*; and (3) the use of *opus reticulatum* as facing, as well as the small size of the pieces of stone of which it is composed.

The principal monuments of the period, made wholly or in part of *opus caementicium*, are as follows: the theatre and porticus of Pompey (55 B.C.), the Forum Julium (54 B.C.; the vaults of the adjoining rooms), the Curia Julia (52 B.C.; the foundations), the Rostra Julia, the *cuniculi* (finished by Augustus), the foundation near the Equus Domitiani, the theatre of Marcellus (finished by Augustus), the *Horti Caesaris*, the earlier Domus Liviae on the Palatine, the private house on the slope of the Palatine below the so-called temple of Jupiter Victor (the lower walls), the so-called "house of the Odyssey landscapes," and the house near the Villa Farnesina.

ESTHER BOISE VAN DEMAN.

ROME, ITALY,
March 15, 1912.

ARCHAEOLOGICAL DISCUSSIONS¹

SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PUBLICATIONS

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GENERAL AND MISCELLANEOUS

Ancient and Modern Harness.—In *B. Soc. Ant. Fr.* 1911, pp. 145-150, Commandant LEFEBVRE DES NOËTTES shows that ancient harness was essentially the same all over the ancient world, and far inferior to that in use to-day. The ancient horse pulled by means of the collar, the yoke, and the pole, and was thus able to use but a small part of his strength. A horse in modern harness at a trot has twice the pulling power of a span of horses in antiquity; while a team of draught horses pulling a modern truck may have as much as sixty times the power of an ancient team. With the introduction of modern harness in the tenth century the real strength of the horse was utilized for the first time.

The Dating of the Encomi Finds.—The Mycenaean necropolis at Encomi (Salamis), in Cyprus, was excavated in 1896 by an English expedition and is dated by A. S. Murray at about the year 800 B.C., largely on account of resemblances to Assyrian art. A more detailed examination of the contents of the separate graves, however, shows that they are by no means all of one era, some being as early as the beginning of the second millennium B.C. A large number of objects of Egyptian and Cretan origin are definitely dated in the fifteenth, fourteenth, and later centuries, and none can be certainly placed later than 1000 B.C. There seems to be no foundation for the Assyrian analogies. (F. POULSEN, *Jb. Arch. I.* XXVI, 1911, pp. 215-248; 31 figs.)

The Bastarnae.—In *Jb. Oest. Arch. I.* XIV, 1911, Beiblatt, cols. 61-76, O. FIEBIGER publishes notes on the Bastarnae, a Germanic people who appeared on the north coast of the Euxine in the second century B.C.

¹ The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor FRANK G. MOORE, Professor CHARLES R. MOREY, Dr. JAMES M. PATON, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Dr. N. P. VLACHOS, Professor ARTHUR L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after December 31, 1911.

For an explanation of the abbreviations, see pp. 160-161.

The Influence of Persian upon Japanese Art. — In *C. R. Acad. Insc.* 1911, pp. 386-399 (pl.; 2 figs.), M. DIEULAFOY shows that a covered silver pitcher from the temple of Hôryouji, near Nara, Japan, dating from the seventh century A.D., is a Chinese work copied from a Persian model. He also cites other evidence to show the influence of Persian art upon the early art of China and Japan.

The Monolithic Pillars of Asoka. — In *Z. Morgenl. Ges.* LXV, 1911, pp. 221-240, V. A. SMITH gives a list, as full and accurate as possible, of all the surviving Asoka columns, as well as of those known or believed to have existed once or to exist now. The column and adjoining *stûpa* and temple were erected to mark that most sacred spot, where "the Wheel of the Law was first turned," or, in plain language, Buddhist doctrine was publicly preached for the first time. The wheel, therefore, was an obligatory symbol. The four lions, back to back, guarded the north against the demons and also symbolized the Master of the Law. Thus they were properly placed supporting the wheel. The four quadrupeds in bas-relief on the abacus plainly meant that the monument was under the protection not only of the guardian of the north, but also under that of the wardens of all the four quarters. They further meant that the proclamation of the Good Law was the concern and blessing of the Church of the whole world.

Quaternary Man in Central Africa. — In *C. R. Acad. Insc.* 1911, pp. 313-318 (2 figs.), Dr. CAPITAN calls attention to a large collection of palaeolithic implements found in the desert 400 km. north of Timbuctoo. They correspond exactly with implements of the quaternary period in Europe and are undoubtedly contemporaneous with them. The desert was at that time fertile and not unlike southern Europe.

Prehistoric Weapons among African Tribes. — In an article on the connection of primitive weapons still used among African tribes with those of prehistoric times (*Z. Ethn.* XLIII, 1911, pp. 240-260; 16 figs.), L. RÜTTMEYER emphasizes the light often cast on prehistoric times by folk-lore, ethnography, and ethnology. He describes spears with bone and horn points, boomerangs, sticks, and clubs used as missiles, slung-stones used as hammers or as weapons, sticks grasped by the middle and used as shields, stone pestles, petrified *echini* as amulets, stone vessels, etc. Herodotus (VII, 69) refers to Ethiopians who used spears tipped with antelope horns, and arrows with stone heads. They had the woolliest hair, he says, of all men. These weapons indicate a remote connection between the cultures of Africa and Australia.

EGYPT

An Inscription of Amen-em-hat III. — In *Ber. Kunsts.* XXXIII, 1911, cols. 40-46 (fig.), H. SCHÄFER discusses a finely preserved inscription on a limestone slab from the temple of Sobk at Crocodilopolis, now in the Berlin museum. It dates from the time of Amen-em-hat III.

A Portrait of an Officer of Thutmosis III. — In *Ber. Kunsts.* XXXII, 1911, cols. 185-189 (2 figs.), H. SCHÄFER publishes a seated statuette, 76 cm. high, of an officer of Thutmosis III. It is of an alabaster-like limestone and wonderfully preserved, but can hardly be called a great work. It is now in the Berlin museum.

Monuments from the Theban Necropolis.— In *Sitzb. Berl. Akad.* 1911, xlviii xlix, pp. 1086–1110 (pl.), ADOLF ERMAN publishes and discusses a stele from the necropolis of Thebes now in the Berlin museum (No. 23077). It bears an inscription in praise of Amon Re, signed by Neb-re, painter of Amon in the Necropolis, and by his son Chai. (See *A.J.A.* XVI, p. 136.) Nine other similar inscriptions are published. From these and other sources the religious beliefs and sentiments of artisans of the time of the nineteenth dynasty are learned. The god was regarded as kindly, well-disposed to the humble, but offended by the proud and the wicked, punishing sin by illness and blindness, but by nature gracious and ready to aid those who call upon him.

The Hyksos in Egyptian Tradition and in History.— In *J. Asiat.* XVI, 1910, pp. 507–580, R. WEILL continues the discussion of the history of the Hyksos begun in previous numbers of the same journal, taking up the account of the exodus of the unclean as found in Manetho and the Alexandrian literature. He gives a comparative table showing the development of the tradition in later Egyptian literature, and endeavors to ascertain its primitive form. This is followed by a discussion of the old Egyptian sources which confirm the truth of this tradition.

Interpretations of Seketu, Kefeth, Ash.— In *R. Arch.* XVIII, 1911, pp. 264–267, CECIL TORR identifies *Seketu* of an Egyptian inscription with Shigati (Τίγαντος, Gigarta) in Phoenicia and *Kefeth* (or *Kefet*) with the city called Akbatana on the promontory of Mount Carmel. He also shows that the tree called *ash* in Egyptian was not the cedar, but a native Egyptian tree which produced an unguent as well as timber.

Notes on Some Egyptian Monuments.— In *S. Bibl. Arch.* XXXIII, 1911, pp. 197–203 (3 pls.), A. WIEDEMAN discusses some Egyptian representations of the hippopotamus, bull, squatting monkey, and ornaments and trinkets of women.

Decoration of Egyptian Coffins.— In *S. Bibl. Arch.* XXXIII, 1911, pp. 162–170 (3 pls.), A. WIEDEMANN states that the Egyptian monuments make it possible to follow the development of the decoration of the breast of the coffin. Originally it was reserved exclusively for the king, Antef for example, who had a right to the crowns of Upper and Lower Egypt. Later, the tutelary divinities were ascribed to the members of the royal family also, but this ascription sometimes led to the neglect of their primary signification. At last the meaning of the picture was quite forgotten, the two heads which represented the two countries disappeared, only the tutelary vulture remained, unless it had to give way to Nut. With the increasing importance of the Osirian conceptions was also connected the progressive substitution of the coffin in human form as it appears in the *rischi* coffins, for the old coffin in the form of a chest, or rather of the *magazine-tomb*. A compromise between the two conceptions is made when the deceased has two coffins, the inner one in the form of the mummy, the outer one in that of a chest.

Egyptian Gold Work.— In *Ber. Kunsts.* XXXII, 1911, cols. 189–191 (5 figs.), MÖLLER publishes several objects of gold now in the Berlin museum. The most important is a seal cylinder of the Old Kingdom bearing the name of Mycerinus. A man-headed hawk with back and wings inlaid with lapis lazuli and turquoise dates from about 600 B.C. and is of great beauty.

Three small figures representing Sachmet, Anubis, and a king wearing the crown of Upper Egypt, date from the fifth or sixth century B.C.

An Addition to the Senmut-Fresco. — In *B.S.A.* XVI (session 1909–1910), pp. 254–257 (frontispiece; pl.), H. R. HALL publishes a partly colored drawing by the late Mr. Robert Hay of the well-known fresco in the tomb of Senmut at Thebes. The drawing was made about 1837, and gives the most important parts of the painting in water color. Parts of three more figures are seen than exist at present in the tomb. The first holds a large-footed bowl, the second an ewer, the third a great sword.

A Clay Sealing from Egypt. — In *B.S.A.* XVI (session 1909–1910), pp. 290 f. (fig. in pl. and fig. in text), H. B. WALTERS describes a clay seal for a wine jar, which was acquired in Egypt. (*Brit. Mus. Cat. of Terracottas*, p. 443, No. E 93.) On the seal are impressions of two gems, one a bearded head with the inscription ἀγαθὸς δέμῳ ascribed to the end of the second century A.D., the other representing a lion attacking a goat, hardly later than the beginning of the Christian era. The under side of the seal shows the marks of a cloth. Evidently the method of sealing wine jars in use in the Mycenaean Age was still practised in Egypt under the Roman empire.

The Legend of Osiris. — In *S. Bibl. Arch.* XXXIII, 1911, pp. 139–154 (4 pls.), F. LEGGE states that from the age of the pyramids down to that of the Ptolemies and the Caesars, there was worshipped in Egypt a god whose cult extended over the whole country, and never seems to have depended upon any priestly corporation or college. This was Osiris, the god of the dead, who differs from all the other Egyptian gods in that he had a complete legend which set forth all his history, his parentage, birth, marriage, death, and resurrection. There are two elements in it, which have no necessary connection with each other. The earliest of these is the war between Horus and Set, which, until the last few years, seemed to be entirely allegorical. But, since M. Amélineau's discovery of the tombs at Abydos, we see that the war between Horus and Set probably took place well within historic times, and not very long before the building of the pyramids. The other element in Plutarch's story was not originally Egyptian. The worship of Osiris was brought into Egypt from the shores of the Mediterranean, probably from Libya. The original home of the Osiris myth was Babylonia.

Phoenician and Aramaic Inscriptions from Abydos. — In *Eph. Sem.* Ep. III, 1911, pp. 93–116 (4 pls.), M. LIDZBARSKI publishes new copies of the graffiti on the walls of the temple of Osiris at Abydos, which hitherto have not been copied with sufficient accuracy to be used scientifically. They were carved by pilgrims to the shrine of Osiris, who hoped by leaving these memorials of themselves to secure as favorable a place in the other world as if they had been buried in the neighborhood of the god.

Aramaic Papyri and Ostraka in the Museum at Cairo. — In *Eph. Sem.* Ep. III, 1911, pp. 117–132 (15 figs.), M. LIDZBARSKI publishes eighteen hitherto unpublished Aramaic papyri and ostraka from the museum in Cairo, containing votive inscriptions and business memoranda of various sorts.

An Aramaic Ostrakon from Elephantine. — In *S. Bibl. Arch.* XXXIII, 1911, pp. 183–184 (pl.), A. H. SAYCE publishes an ostrakon that was found by the natives in the mounds of Elephantine some years ago. It is especially interesting on account of its reference to the Passover.

The Jewish Papyri of Elephantine.—In *Exp. Times*, XXII, 1911, pp. 92–93, A. H. SAYCE describes the additional papyri, more or less mutilated, which are now edited by Professor Sachau. These consist of official and private letters, of lists of persons, with the amount of silver—2 shekels per man—each had to pay “to the god Yeho,” of business documents, of ostraka and similar texts, and of two literary compositions of the highest interest and value. One of these is an Aramaic copy of the Behistun inscription of Darius I, in which the Persian monarch gives an account of his reign; the other is nothing less than the romance of Ahiqar, the wise man of the East (called Achiacharus in the Book of Tobit), which is thus shown to have been a work of far older date than has hitherto been supposed. One of the most curious facts that have resulted from the discovery and decipherment of the papyri is that the Jewish settlement at Elephantine and Assuan was a military colony.

Prehistoric Pottery from India and from Egypt.—In *Sitzb. Mün. Akad.* 1911, 6, pp. 1–22 (3 pls.), FR. W. v. BISSING discusses specimens of prehistoric pottery from India and from Egypt which are remarkably similar but cannot, on account of their dates and of other circumstances, indicate any connection or intercourse between those countries. He points out the danger of assuming such relations on the ground of mere similarity of a limited number of objects without due regard paid to historic facts.

Egyptian and Egyptizing Objects found in Southern Russia.—In *R. Arch.* XVIII, 1911, pp. 20–35 (23 figs.), B. TOURAÏEFF describes and discusses Egyptian and Egyptizing objects (scarabs, scaraboids, figurines, vases, amulets, etc.) found in southern Russia. None of them is of very great interest in itself, but collectively they show that small objects of Egyptian manufacture (or, in some cases, probably Phoenician imitations) were prized during the Saïte, Ptolemaic, and Roman periods in southern Russia as far inland as Kiev. The introduction of Egyptian cults is probably not entirely responsible for this; the objects were prized as works of art also.

The Number 6475 in the Greek Cities of Egypt.—In *R. Arch.* XVIII, 1911, pp. 256–263, GUSTAVE GLOTZ explains the number 6475 which occurs in an inscription from Talit (Petrie, *Illahun, Kahun and Gyrob*, pl. XXXII, pp. 29 f.; Dittenberger, *Or. Gr. inscr. sel.*, No. 668, etc.) and a papyrus (C. Wessely, *Studien f. Paläogr. u. Papyruskunde*, IV, p. 69, col. vi, ll. 91–92; *Topogr. des Faiyum in gr. Zeit.* in *Denkschr. d. kais. Akad. d. Wiss. in Wien*, phil.-hist. Klasse, L (1904), p. 27), as the total of 7200 citizens (720 phratRIES) less the 725 dignitaries. Analogies are found in Greek cities outside of Egypt.

Alexandrian Statuettes of Aphrodite.—In *Jh. Oest. Arch.* I. XIV, 1911, pp. 112–120 (10 figs.), A. HEKLER publishes a nude bronze statuette of Aphrodite with a headdress in the form of a vulture now in a private collection in Budapest. It represents Isis-Nechbet-Aphrodite. He compiles a list of twenty other figures of the goddess, some nude and some draped, having this peculiar headdress.

Coptic Book Bindings.—The Berlin museum acquired in 1896 four leather bindings of Coptic books, two of which are published by IBSCHER (*Ber. Kunsts.* XXXIII, 1911, cols. 46–52; 3 figs.). In one case an intricate pattern consisting of circles, squares, hearts, etc., was cut out of a piece of

red brown leather and this placed over a piece of yellowish leather and fastened upon a stiff backing made of papyrus. The second cover was simpler, consisting of a geometric design with pieces of white leather set in. Coptic writing on the waste papyrus used in the backing for the leather dates from the end of the eighth century, so that the bindings date from about 800-850 A.D. They were probably made in a Coptic monastery, and are important for the history of book-binding.

BABYLONIA, ASSYRIA, AND PERSIA

Tablets from Kiš.—F. THUREAU-DANGIN publishes in *Rev. d'Ass.* VIII, 1911, pp. 68-79, six tablets from Kiš, said to have been found at Aḫimer, the El-Oḫēmīr of Ker Porter, a mound east of Babylon on the ancient canal Shatt en-Nil. The frequent occurrence of the god Zamama, both in the proper names and in the oaths of these tablets, affords internal evidence for the identification of Aḫimer (Oḫēmēr) with ancient Kiš, the seat of the oldest Semitic dynasty in Sumer and Akkad. See also *S. Bibl. Arch.* XXIII, 1911, pp. 128-129, notes by C. H. W. Johns. In addition to this, in *S. Bibl. Arch.* XXXIII, 1911, pp. 185-196 (9 pls.), S. LANGDON publishes thirty-one tablets from Kiš. From this material we are enabled to gain some information regarding the relations of Kiš to the rising dynasty of Babylon. The struggle for supremacy between Babylon and Kiš must have been severe, for as early as the tenth year of Sumu-abu we have a tablet dated by the formula of this king, which shows that he was recognized at Kiš.

The Reign of Arad-Sin, King of Larsa.—Inscriptions of Arad-Sin and of Rim-Sin have long been in the hands of Assyriologists. In *S. Bibl. Arch.* XXXIII, 1911, pp. 204-212, W. T. PILTER reviews the contents of all the inscriptions of both kings that have so far been published, and discusses the questions: (1) Were Arad-Sin and Rim-Sin separate persons, or were the two names held—at different times, or it may be, in different places—by the same ruler? (2) Was the determinative of divinity placed before the personal element in Rim-Sin's name as the result of his conquest of the old royal city of Išin? (3) And was that conquest the same as that of the seventeenth year of Sin-muballit, the father and predecessor of Hammurabi?

A Letter of Rim-Sin, King of Larsa.—In *S. Bibl. Arch.* XXXIII, 1911, pp. 221-222 (pl.), S. LANGDON gives a letter of Rim-Sin, the powerful rival of Hammurabi (2130-2088 B.C.), and of Samsu-iluna (2087-2050 B.C.). This is the first document of the kind thus far known from this king. The letter most probably refers to the wars against Babylon in the latter part of the reign of Hammurabi.

Semiramis.—In *Or. Lit.* XIV, 1911, col. 388, A. UNGNAD claims that the usual identification of Semiramis in Greek legend with Sammuramat, the wife of Samši-Adad, does not do justice to the fact that she is represented as a queen of the most ancient period. Elements in the tradition are derived from Queen Azag-Bau, who is known to have been an independent sovereign of the third millennium B.C.

The Babylonian List of Gods An (= ilu) Anum.—In *Sitzb. Sächs. Ges.* LXIII, 1911, iv, pp. 83-125, H. ZIMMERN discusses the list of gods from the library of Assurbanipal (King, *Cuneiform Texts*, 24, 25), which is

of Babylonian origin. He shows that it forms tablets I-VI of a series and points out its relation to other tablets of the same series, besides offering various notes and emendations and giving in tabular form the contents of the six tablets.

The Babylonian Calendar in the Reigns of Lugalanda and Urkagina.—In *J.A.O.S.* XXXI, 1911, pp. 251-271, G. A. BARTON states that within the past three years a large number of documents from the temple archives of Telloh, dated in the reigns of Lugalanda and Urkagina have been published, and that these documents show that the calendar of the period which they represent was, in some respects, different from the calendar of the time of Sargon, or of the dynasty of Ur, or of Hammurabi, or of the later periods. For the most part, the names of the months in the time of Lugalanda and Urkagina were taken from agricultural processes and the agricultural festivals connected with them. There is but one exception to this; one month is named from a star. The names had not yet crystallized into one conventional form. Several of them are expressed in a great variety of ways. Two or three of these names have survived into later times, as have fragments of several others.

The Elamite Venus-Year.—In *Memnon*, IV, 1910, pp. 83-106, F. BORK attempts to show that there existed in ancient Elam a year that was determined by the synodical period of the planet Venus, and that this Venus-year was more ancient than the lunar year. It was identical with the Mexican Venus-cycle, the so-called *Tonalamatl*. It is impossible to believe in an independent discovery of these similar cycles, but in some way the Mexican year must have been brought to America by the migration of a people from Central Asia, who had become acquainted with the Elamite calendar. *Ibid.* V, 1911, pp. 29-40, E. WEIDNER publishes a transcription and translation of a Babylonian text, which shows that a Venus-year of 584 days was known to the Sumerians and the Babylonians from the most ancient times. *Ibid.* V, 1911, p. 81, F. HROZŇÝ claims that the facts adduced by Bork are insufficient to prove that the Elamites had a Venus-year, and that the comparison with the ancient Mexicans is accordingly superfluous. To this Bork replies p. 99.

Babylonian Measurement of the Fixed Stars.—In *Or. Lit.* XIV, 1911, col. 345-346, E. WEIDNER examines a Babylonian measurement of the distance in degrees between two of the fixed stars, and comes to the conclusion that this observation was made in the year 1993 B.C. and that the measurement shows a surprising degree of exactness.

The Babylonian Zuḫaru.—In *S. Bibl. Arch.* XXXIII, 1911, pp. 121-127, S. LANGDON states that the class-name *zuḫaru*, fem. *zuḫartu*, appears to be confined to the period of the first dynasty, occurring also on Cappadocian tablets, which are now known to belong to that period. Assyriologists have universally taken the word for *ṣuḫaru* and translated "youth" and "maiden." *Zuḫaru*, which never occurs as *ṣuḫaru*, means most certainly "agent, messenger."

A Babylonian Cylinder-Seal.—In *S. Bibl. Arch.* XXXIII, 1911, pp. 213-220 (pl.), T. G. PINCHES describes a seal bearing representations of two gods. The winged female figure, standing on the mount, is Ištar. The striding deity, apparently about to mount the rock, is probably the god Ea or Aa, the original creator. The tree on Ištar's right is probably symbolical of

the tree of life, and its four branches suggest some connection with the "four heads" of the river of paradise, as described in Genesis 2. The bifrons on the extreme right is probably simply a divine attendant, while the warrior-god on the extreme left may possibly be Nergal, followed by a lion as one of his attendant animals.

An Elamite Cylinder in Paris.—In *R. Arch.* XVIII, 1911, pp. 36–38 (fig.), L. DELAPORTE publishes a cylinder which has been in the Bibliothèque Nationale for half a century (No. 765 in Chabouillet's *Catalogue*; No. 503 in the *Catalogue des Cylindres de la Bibliothèque Nationale*). On it a seated goddess is represented, and a second goddess stands with raised hands before her. The inscription names the owner Pililišube, daughter of Kuk-kuri. She calls herself servant of the god Gal and of his goddess U-pi-ir-ku-ba-ak.

A Divine Lament.—In *J.A.O.S.* XXXI, 1911, pp. 395–402, J. D. PRINCE discusses the lament published in *C.T.* XV, Plates 24–25. It was written and sung by the priests of Nanâ, whose image was taken by the Elamites in 2270 B.C., according to the Prism Inscription of Assurbanipal. Assurbanipal in 635 B.C. retook and restored the image to its original habitat in Uruk amid great rejoicings at his pious act.

Sumerian Hymns and Prayers.—In his *Sumerian Hymns and Prayers to the God Nin-ib* H. RADAU discusses the development of the religion of the Sumerians and particularly the god Nin-ib in his various aspects; and publishes thirteen tablets from Nippur now in the University of Pennsylvania museum. These are hymns and prayers to Nin-ib. Photographic facsimiles and transcriptions, as well as a transliteration and translation with commentary of five of the tablets, are included in the volume. [The Babylonian Expedition of the University of Pennsylvania. Series A: Cuneiform Texts. Ed. by H. V. Hilprecht, Vol. XXIX, Pt. 1. *Sumerian Hymns and Prayers to the God Nin-ib from the Temple Library of Nippur*. By HUGO RADAU. Philadelphia, 1911, University of Pennsylvania. viii, 88 pp.; 21 pls. 4to. \$3.]

Babylonian Hymns and Prayers.—Under the title *Babylonian Hymns and Prayers* (Philadelphia, 1911, University Museum, 12 pp.; 47 pls.) D. W. MYHRMAN publishes in photographic reproduction and transcription eighteen tablets engraved with hymns and prayers in the museum of the University of Pennsylvania. Of these, eleven found at Nippur are with two exceptions in Sumerian, one is in Sumerian and Semitic Babylonian; the remaining seven, purchased in London, are in Semitic Babylonian. They date from the third millennium and later. The writer promises a translation and commentary.

The Date of Sennacherib's Campaign against Hilaku.—It is commonly assumed that the expedition against Hilaku recorded in the newly discovered prism of Sennacherib occurred in the year 698 B.C., but in *Or. Lit.* XIV, 1911, col. 344, K. TALLQVIST shows that this expedition occurred in the eponymate of Shulmu-Bel, which fell in the year 696 B.C.

The Murder of Sennacherib.—In *S. S. Times*, LIII, 1911, p. 395, A. UNGNAD calls attention to a new inscription of Sennacherib which clears up the difficulties in regard to the assassination of Sennacherib by his two sons in the narrative of 2 Kings 19: 36, 37.

Supplementary Material for Assyrian Syllabaries.—The important syllabaries S^a, S^b, S^{b1}, and S^c have lately been published by Thompson in *Cuneiform Texts*, XI and XII, and have been supplemented by F. Thureau-

Dangin in *Z. Assy.* and by Meissner in *Mitt. Vorderas. Ges.* XV, 5. In *Z. Morgenl.* XXVI, 1911, pp. 127-152, V. CHRISTIAN gives considerable new material for the correction and supplementing of these lexical texts that has appeared since the time of their first publication.

Inscriptions from Seleucia Pieria.—In *Mél. Fac. Or.* V, 1911, pp. 329-333, L. JALABERT publishes two inscriptions from Seleucia Pieria, one in honor of a certain Flavia or Flavianus—the broken condition of the text makes it impossible to decide which is meant—the other containing the inscription *C. Opellio Zmaragd[o]*.

The Cuneiform Inscriptions on the Tomb of Darius Hystaspis.—In *Abh. Sächs. Ges.* XXIX (No. I), 1911 (54 pp.; 8 pls.; 11 figs.), F. H. WEISSBACH publishes the cuneiform text, a transliteration, and a translation of the cuneiform inscriptions on the tomb of Darius Hystaspis. The publication of the text is preceded by a historical sketch and a brief description of the tomb and its inscriptions.

SYRIA AND PALESTINE

The Archaeological Exploration of Palestine.—In *J. Bibl. L.* XXX, 1911, pp. 1-17, D. G. LYON discusses the opportunities and problems that confront the excavator in Palestine. Many of the *tells* are now occupied by houses that interfere with their exploration. The Turkish law in regard to antiquities is also a cause of numerous difficulties and delays, but in spite of these obstacles much has been accomplished by the expeditions which have been sent to Palestine by the various countries of Europe and America during the last twenty years. Most important results have been obtained in the Canaanite levels of the mounds. We have now gained a clear impression of the life and civilization of the Canaanites and of the process by which they mingled with the Israelites. For the later periods the results have been less important, but still not without interest. The chief work that still remains to be done is the exploration of fortresses and churches left by the Crusaders, of Jewish synagogues, and of the great fortresses of the Roman period.

The Influence of Aegean Civilization upon Egypt and Palestine.—In *Mitt. Vorderas. Ges.* XVI, 2, pp. 1-104 (54 figs.), R. VON LICHTENBERG shows that the abundant Aegean remains, distributed through several centuries, that have been found in Egypt and Palestine prove the great importance of the Aegean civilization and its strong influence upon the neighboring civilizations. In Palestine, along with native types, Mycenaean-Cypriote motives lasted for a long time after they had disappeared from the Mycenaean civilization in the Mediterranean. On the other hand, foreign influences upon Aegean civilization are of less importance, but they contribute to confirm the conclusion reached in other ways in regard to the age of that civilization.

The Name of the King of Jerusalem in the Tell el-Amarna Letters.—The name of the king of Jerusalem in the Tell el-Amarna letters is ordinarily read Abd-ḥiba, but in *Or. Lit.* XIV, 1911, col. 341-343, A. GUSTAVS shows that Ḥiba is the same as the Mitannian goddess Hepa, and that accordingly the ideogram for "servant" in this name should probably be read as Mitannian rather than Canaanite. In the language of Mitanni the

name for servant is *put* and the masculine termination is *i*, accordingly the name of this king should be read Put-i-Hepa.

Bir-idri = Ben-Hadad.—In *Exp. Times*, XXII, 1911, pp. 370-372, P. S. P. HANDCOCK asserts the extreme improbability of the generally accepted identification of Benhadad, Ahab's contemporary, and the so-called "Bir-idri" of Shalmaneser's inscription. The unnamed king of Syria in 1 Kings 22, by whom Ahab was defeated and slain at Ramoth-gilead, was Hadad-ezer, an entirely different personage from the comparatively impotent Benhadad of 1 Kings 20. *Ibid.* XXII, 1911, pp. 68-69, S. LANGDON holds that Ben-Hadad in the Hebrew sources, corresponds to the Assyrian *IM-id-ri*. The only way out of the difficulty of the difference of names is to go back to the interpretation of Winckler and Delitzsch, now held also by Zimmern, and read the Assyrian name as *Bir-id-ri*. A new inscription which he transcribes favors this solution of the problem, and, perhaps, firmly establishes *Bir-adar* in place of the extremely doubtful Ben-Hadad.

The "Field of Abram" in the Geographical List of Sheshonk I.—In *J.A.O.S.* XXXI, 1911, pp. 290-296, J. H. BREASTED replies to the claim of M. G. Kyle, *ibid.* 1910, pp. 86-91, that the identification of the second portion of the name as Abram, "scarcely comes within the bounds of possibility." He shows that none of the objections offered by Kyle cause any difficulty, and he is, therefore, still inclined to see in the word the earliest occurrence of the name Abram.

The Inscriptions of King Kalamu.—In *Sitzb. Berl. Akad.* 1911, xlv, xlvii, pp. 976-985, E. LITTMANN gives the text (in Hebrew characters) and a literal translation, with notes, of the inscriptions of King Kalamu (F. von Luschan, *Ausgrabungen von Sindscherli*, Heft XIV of *Mitteilungen aus den Orientalischen Sammlungen der Kgl. Museen zu Berlin*), which are among the earliest known inscriptions in Semitic alphabetical writing. The two inscriptions are virtually one, telling of the greatness of Kalamu. The language is Phoenician with some Aramaic elements. Further notes are published by C. BROCKELMANN, *ibid.* li, lii, liii, pp. 1142-1146.

The God Ashima of Hamath.—In *Exp. Times*, XXII, 1911, p. 93, F. HOMMEL discusses Ashima mentioned in 2 Kings 17:30 as a God of Hamath. In all Aramaic-speaking countries a vocalization of the dental nasal into the simple *spiritus lenis* is very common, so that, in connection with Ashima, it is natural to think of the well-known god Eshmun. This would then be a feminine form (Ashmatt from Ashmant, or Eshmutt from Eshmunt). In Am. 8:14 the same deity is mentioned, "They that swear by the *Ashmat* of Samaria, and say, As thy God, O Dan, liveth."

Rahab.—In *Exp. Times*, XXII, 1911, pp. 423-424, C. MOXON holds that the Rahab passages in the Old Testament find their final explanation only in the myths about Tiamat. If this be granted, the question remains whether the mythic slaying of Tiamat was alone referred to in these poems. It is more in accord with the Hebrews' way of adapting the myths and customs of their neighbors to suppose that they would connect the Tiamat narrative with their national history. An examination of the relevant passages makes it appear probable that in some of them the Rahab-Tiamat myth is connected with the crossing of the Red Sea.

The Sepulchral Monument "Masgeba."—In *J. Bibl. L.* XXX, 1911, pp. 109-113, B. D. ERDMANS states that according to primitive religious

belief, the soul, embodied in the breath, leaves the body of a dying man. The soul, however, remains in the neighborhood of the corpse, and is near the grave, at least during the first weeks after the burial. Now it is necessary that this soul have a place of rest, in order not to be compelled to wander about. It must receive food and drink at proper times, and is supposed to do mischief to the surviving relatives if no shelter and food are offered. The *masseba* is easily explained as a house for the soul. Therefore the name of the deceased person is inscribed upon it; and the monument itself is called "soul." The male form was chosen for the graves of men, the female form for the graves of women.

Some Early Amulets from Palestine.—In *J.A.O.S.* XXXI, 1911, pp. 272-281 (2 pls.), J. A. MONTGOMERY describes three Hebrew amulets found at Irbid in the Hauran and belonging in date to about the second to the fifth centuries A.D.

The Samaritans in the Jewish Aramaic Papyri from Elephantine.—In *S. S. Times*, LIII, 1911, p. 601, J. A. MONTGOMERY gathers from the recently published Assuan papyri the materials that throw light upon the origin and history of the Samaritans.

Meaning of Selah.—In *Exp. Times*, XXII, 1911, pp. 374-377, P. HAUPT claims that *Selah* is connected with the Hebrew verb *saldl*, which means originally "to throw." The noun *selah* denotes throwing down, prostration in adoration.

An Old-time Savings Bank from Moab.—In *Pal. Exp. Fund*, XLIII, 1911, pp. 195-196 (fig.), A. FORDER tells of a small earthenware jar, seven and a half inches high, five inches wide, and at the bulge four and one-quarter inches across. The jar when found contained over fourteen hundred pieces of money of different sizes. Most of the coins were badly worn and very rusty, but some are well preserved and are of the time of Constantine.

The Walls of Jerusalem.—In *S. S. Times*, LIII, 1911, p. 586, L. B. PATON discusses the location of the walls of ancient Jerusalem in the light of the most recent archaeological discoveries.

The Costume of Hebrew Women in the Time of Isaiah.—In *Or. Lit.* XIV, 1911, cols. 390-391, S. DAICHES shows that the dress of the Hebrew ladies described in Is. 3: 18-23 is identical with that of the goddess Ishtar as described in the epic of Ishtar's descent to Hades. The costume of Ishtar was that of the Babylonian ladies, and this shows that Babylonian fashions prevailed in Jerusalem in the time of Isaiah. These considerations have an important bearing on the genuineness of the passage in Isaiah.

Inscriptions from el-'Ola.—In *Eph. Sem. Ep.* III, 1911, pp. 207-216, M. LIDZBARSKI publishes four inscriptions that were brought from el-'Ola by the Mecca Railway to Damascus, and copied there by the Rev. Mr. Hanauer. One is Minaean; the other three are ancient North Arabic.

Palmyrene Inscriptions.—In *Eph. Sem. Ep.* III, 1911, pp. 132-157 (pl.), M. LIDZBARSKI publishes a collection of new Palmyrene funerary inscriptions from the museum in Constantinople, Damascus, Cairo, and the museum of the Syrian Protestant College in Beirut, and also a collection of tesserae from the museum of the Syrian Protestant College.

A Sacred Galley on Tyrian Coins.—In *B. Soc. Ant. Fr.* 1911, pp. 152-155, J. TOUTAIN calls attention to a series of Tyrian coins upon which on the reverse Astarte appears standing on the bow of a galley, with such

an inscription as *Τύρον ιερὰς ἀσύλου*, or *Τύρον ιερὰς μητροπόλεως* above, and the three Phoenician letters for Tyre. In Arrian's *Anabasis*, II, 24, 6 there is an account of a sacred ship which Alexander captured at Tyre and rededicated to Melkart, and the writer suggests that this is the ship represented on the coins.

ASIA MINOR

Hittite Archives from Boghazkeui. — In *Ann. Arch. Anthr.* IV, 1911, pp. 90-100, META E. WILLIAMS translates from the German of Winckler extracts from the Hittite archives found by him at Boghazkeui.

Hittite Inscriptions. — The first fruit of the Cornell Expedition to Asia Minor is the publication of the Hittite inscriptions copied by its members. These, twenty-seven in number, are reproduced by Dr. Charles in photographic facsimile and transcription. The careful use of squeezes and a study of the known signs has enabled him to transcribe many apparently hopeless passages. This is especially the case with the great inscription of Boghazkeui, hitherto generally regarded as illegible, of which Dr. Charles has recovered the greater part of the main portion, and much of three lines at the left. It is expected that further results of the expedition will be published during 1912. [*Travels and Studies in the Nearer East.* BY A. T. OLMSTEAD, B. B. CHARLES, and J. E. WRENCH. Vol. I, Pt. 2. *Hittite Inscriptions.* Ithaca, 1911. 49 pp.; 27 pls.; 45 figs. 4to.]

The Stele of Ördek-burnu. — In the museum of Constantinople there is an inscription upon a stele brought from Ördek-burnu that hitherto has resisted all efforts at decipherment. In *Eph. Sem. Ep.* III, 1911, pp. 192-206 (3 pls.), M. LIDZBARSKI gives the results of a new and careful collation of the text. The characters belong to the earliest period of the Semitic alphabet, but the language is not Semitic, but is probably one of the dialects of Asia Minor. Whether it be Hittite, Mitannian, Carian, or some other language, it is impossible in our present state of knowledge to say.

Corpus Inscriptionum Neo-Phrygiarum. — All the known texts of Neo-Phrygian, about seventy in number, a score of which are new since Ramsay's publication in 1905, are published by W. M. CALDER in *J.H.S.* XXXI, 1911, pp. 161-215. Although no two are exactly alike, they are chiefly curses on violators of tombs, appended to epitaphs in Greek, and they can be interpreted by the formulas of similar import which occur in that region in Greek. This comparative method seems a better means of getting at the forms of the Phrygian language than the strictly philological method, which has been tried with slight success. These inscriptions all belong to the first three centuries of the Christian era, and show that the native tongue survived in common speech beside the Greek, for a long time, in isolated districts.

Penalties in Lycian Epitaphs. — In *J.H.S.* XXXI, 1911, pp. 269-275, W. ARKWRIGHT discusses the Lycian epitaphs of the third century B.C. and later, which propose a money payment for violation of the tomb. He finds that this is not a penalty imposed by law, but an estimate of the damages that could be collected in a lawsuit, and he traces the change from the Asiatic religious idea of the act of violation as a sin, to the Greek and Roman notion of a crime, and from the owner or his heirs, to a public corporation, as protectors of the grave and recipients of the fine.

The Site of Caesarea in Bithynia.—In *Klio*, XI, 1911, pp. 325–334, J. SÖLCH argues that the site of Caesarea in Bithynia lay at the east end of Lake Dascylites; and that the name is preserved in that of the Turkish village Tscherkige.

The Temple of Artemis at Ephesus.—In *Rec. Past*, X, 1911, pp. 247–248 (pl.), A. E. HENDERSON publishes a restoration of the fourth century temple of Artemis at Ephesus.

A Coin of Artaxisata.—In *C. R. Acad. Insc.* 1911, pp. 363–374 (fig.), E. BABELON publishes a bronze coin recently acquired by the Cabinet des Médailles, Paris. Upon the obverse is a head of Tyche to the right; and on the reverse Victory flying to the left, with the legend ΑΡΤΑΞΙΚΑΤΩΝ ΜΗΤΡΟΠΟΛΕΩΣ, the dates ΙΒ and ΘΞ, and the letters ΗΡΑ in a monogram. He shows that it is a coin of Artaxisata, the capital of Armenia Major, the correct spelling of which was not previously known; and that it dates from 183 A.D. The town was rebuilt after its destruction in 163, and twenty years after this it was the capital as it had been under Trajan. A special era began for Armenia Major in 114 A.D.

GREECE SCULPTURE

The Archaic Gigantomachy at Corfu.—In *R. Arch.* XVIII, 1911, pp. 1–19 (3 figs.), CHARLES PICARD and CH. AVEZOU describe in detail the figures of Zeus and a giant from the archaic pediment at Corfu (see *A.J.A.* XV, 1911, p. 415), the only figures discovered when the article was written. The date suggested is toward the last quarter of the sixth century B.C. The Zeus recalls the “Dorian” style of Argos and Sicyon; the giant has points of resemblance to the statues from the islands.

Torso of a “Kouros” at Neuchâtel.—In *R. Arch.* XVIII, 1911, pp. 39–44 (fig.), W. DEONNA publishes a torso (shoulders to waist) of an archaic nude male figure of Parian marble, brought from Cephalaria and presented to the Musée historique at Neuchâtel in 1836. The entire figure was about 0.45 m. high. Three long strands of hair fall over each shoulder in front. Such statuettes seem not to have been made in the Ionian Islands or in continental Greece. This was probably imported from one of the Cyclades or from Asia Minor. Seven additions to the list of “Kouroi” and several additions to the bibliography given in the author’s work *Les “Apollons archaïques,”* 1909, are appended.

An Archaic Head from Athens.—A much-damaged archaic male head found in Athens in 1879 is illustrated and briefly discussed by E. S. FORSTER in *J.H.S.* XXXI, 1911, pp. 260–262 (fig.). It is an Attic work of the last quarter of the sixth century, and valuable chiefly as marking another step in the series of Attic κοῦροι or nude male figures.

Hageladas.—In *Jb. Arch.* I. XXVI, 1911, pp. 24–34, A. FRICKENHAUS opposes the commonly accepted arguments of Brunn that there was but one sculptor Hageladas of Argos. He shows that dates for work under this name ranging from 520 to 428 B.C. are well authenticated, and that there was a grandson of the early Hageladas, contemporary with Polyclitus, who would naturally have borne the same name. To this younger sculptor, not of the first rank, he assigns the Zeus Ithomatas of the Messenians, the boy

Zeus of Aegion and the Heracles Alexicacus of the Athenian deme Melite, all of which he finds copied in coins or statuettes.

The Marsyas Group.—In *Jb. Kl. Alt.* XXVII, 1911, pp. 551–560 (pl.; 7 figs.), P. J. MEIER calls attention to a new restoration of the Marsyas group recently set up in the museum at Brunswick. The right hand of the Athena is close to her body and grasps the spear which passes in front of her, instead of to the left as in the Stettin restoration. Her left hand points to the ground. The left arm of Marsyas was extended backwards.

The Companion Piece to the Ludovisi Throne Relief.—An exhaustive examination of the three-sided marble relief now in the Boston Museum of Fine Arts (see *A.J.A.* XIV, pp. 389 f., figs. 8–10), together with its better known mate in Rome, is published by F. STUDNICZKA in *Jb. Arch. I.* XXVI, 1911, pp. 50–192 (80 figs.), as the text for the photographic reproduction of the former in *Ant. Denk.* III, i, pls. 7 and 8. Under twenty-four divisions, with citation of countless monuments, reliefs, statues, vase-paintings and ornaments, he discusses the opinions and arguments advanced by other archaeologists and gives the grounds for his own conclusions. These are in brief as follows: The two pieces, which he refers to as B (Boston) and L (Ludovisi), originally decorated the ends of a long altar, the volutes, which are of course to be supplied for L, corresponding to the not unusual altar-horns. They were crowned by acroteria, probably anthemias in the middle and doves at the corners. The sculptures which are Attic-Ionic in character and most closely allied to vase-paintings belong to the transition period between archaic and full classic, in the first half of the fifth century B.C. The main relief of L, with the three female figures, is the rising of Aphrodite from the sea, assisted by two Horae, while the closely veiled figure feeding a censer on the right wing and the naked girl playing the flutes on the left represent the goddess in her two aspects as patroness of connubial and illicit or ritual love. The weighing scene on B illustrates the myth of a contest between Aphrodite and Persephone for possession of Adonis, in which the former goddess won the greater favor. The joyful figure on the left is, therefore, Aphrodite, characterized by a fish as of marine origin, while the sorrowing figure on the other side above the pomegranate is Persephone. The lyre-playing youth on the right wing, who would face the courtesan of L, is Adonis himself, and the old woman on the left, facing the incense-burner, is an old nurse clasping a myrrh tree, now effaced, which symbolized Myrrha, the mother of Adonis. The shrine of Aphrodite and Adonis at Amathus in Cyprus is suggested as the possible site of the altar.

The Art of Phidias.—In *Jh. Oest. Arch. I.* XIV, 1911, pp. 35–88 (2 pls.; 58 figs.), H. SCHRADER discusses several pieces of Greek sculpture which illustrate the art of Phidias. 1. The Athena Medici of the École des Beaux Arts, Paris, is a copy of an original by Phidias. 2. The Demeter relief from Eleusis is Phidian in spirit. He compares with it a Demeter in Berlin and a Cora in the Villa Albani. 3. He shows that the Parthenon metopes known only from Carrey's drawings were not placed on the building in the order in which he drew them. In the middle of the south side after No. X (Centaur seizing a woman) should come No. XVIII (two fleeing women and a small servant), then XXI (two women and statue), XIII (father and mother of the bride), XIV (priestess and servant), and XII (Centaur seizing a woman). Some of Carrey's drawings represent metopes

of the north side. In the middle No. XIX (Demeter and Cora) should be followed by XVII (Hermes and Apollo) and then XX (two Muses). No. XXXII, which is still preserved, belonged to the north side and represented the judgment of Paris. A head in Athens probably came from a metope on the south of the building.

4. He points out the close resemblance between the head of Hera from the Argive Heraeum and the Bologna head (Furtwängler's "Lemnia"), and argues that the latter is not to be attributed to Phidias, but that it is a work of the Argive school. He thinks the main features of the true "Lemnia" may be seen in a relief in Lansdowne House, where Athena is standing unarmed, holding a Corinthian helmet. 5. He identifies the standing statue of a nude youth in the Villa Albani as a copy of the one statue of an Olympic victor made by Phidias. 6. He confirms Treu's theory that the Zeus from Olympia in Dresden is Phidian and compares with it the Cora Albani. 7. He argues further that a fine bronze head in Vienna (Fig. 1) goes back to the Olympian Zeus of Phidias.



FIGURE 1. — BRONZE HEAD OF ZEUS.

Aphrodite Urania of Phidias. — In *R. Arch.* XVIII, 1911, pp. 268-281 (6 figs.) VITTORIO MACCHIORO discusses a half-draped statue of Aphrodite in Naples (*Guida del Museo*, 233) and its replicas, e.g. Clarac, 604, 1326; Reinach, *Répertoire*, II, 406, 5; IV, 202, 7). The right hand rests on a dolphin (in some variants, on a post or the like), the left hand on the hip. The drapery covers the left arm and the lower part of the person from the hips to the ankles. The hair is done up in a knot on the top of the head, and two locks fall over the shoulders in front. Comparison with other monuments leads to the conclusion that the type was invented by Phidias for his Aphrodite Urania. The dolphin is a Hellenistic innovation.

The Artemis Colonna. — The Artemis Colonna in the Berlin museum, named from its former possessor, is discussed by B. SCHROEDER in *Jb. Arch. I.* XXVI, 1911, pp. 34-48 (10 figs.), with especial reference to the disputed date of the original. Since the replica discovered at Miletus proves that the supposedly fourth-century head and fifth-century body really belong together, an examination of both shows that this is a fifth-century

work of the Ionian school, an early member of the group best known by the Nike of Paionius. The sculptor, a man of originality and a student of nature rather than of established canons, anticipated many of the ideas which the great masters of the following century worked out to greater perfection but with less vitality. The nearest analogy to the head is found in Waldstein's Hera head from the Argive Heraeum.

An "Apobates" Relief from the Amphiareum.—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 251–266 (pl.; 2 figs.), N. G. PAPPADAKIS publishes a fragmentary relief from Oropus representing an athlete with helmet and shield about to dismount from a rushing chariot in the *Apobates* race (found in 1887, now in Athens, Nat. Mus. No. 1391; Svoronos, Ἐθνικὸν Μουσεῖον, pl. 56). It is evidently an ex-voto to Amphiaraus (. . . εὐς ἐγγυήν) for victory in the ἀγὼν ἀποβάτης of the Amphiarean games. A transitional work, exhibiting the calmness and balance of the fifth century and the vigor of the fourth, strongly influenced by the similar groups of the Parthenon frieze, it forms an intermediate step between the similar relief in the Acropolis Museum (Collignon, *B.C.H.* 1888, pp. 458 ff., pl. 17), and another found at Oropus (Berlin Mus. No. 725; Furtwaengler, *Samml. Saburoff*, pl. 26).

A Hermes of Cephisodotus.—In *Jh. Oest. Arch. I.* XIV, 1911, pp. 89–97 (6 figs.), V. MACCHIORO publishes a headless Hermes found by the late G. Schmeer in the Roman baths of Agnano. The figure is athletic and stands with the weight on the right leg and with the left advanced. In the right hand is the caduceus, and on the left arm, which is covered by the chlamys fastened about the neck, is the infant Dionysus. Beside the left leg is a tree-trunk and a ram looking up. He argues that this is a copy of a Hermes by Cephisodotus.

A Hermes by a Follower of Praxiteles.—In *Jh. Oest. Arch. I.* XIV, 1911, pp. 98–111 (11 figs.), W. KLEIN discusses a Hermes holding the infant Dionysus found on the Farnese Palace engraved by J. Bapt. Cavalleri in his *Antiquae statuae urbis Romae* (III, IV, pl. 45), and shows that it was the work of a follower of Praxiteles. Several more or less close replicas of it exist.

A Bas-relief of Demosthenes.—In *Hermathena*, XXXVI, 1910, pp. 1–12 (10 pls.), T. K. ABBOTT describes a relief representing Demosthenes which has been in the possession of Trinity College, Dublin, since the middle of the eighteenth century. It is 32.1 cm. high and 23.8 cm. wide and is said to have been found in Hadrian's villa. The orator is seated on an altar with his head bowed in thought. He holds a roll of manuscript in his left hand. It is evident that the sculptor desired to represent him during the last moments of his life. On the altar is the inscription Δημωσθένης ἐπιβώμιος. Michaelis, on the basis of what seemed to be errors in the drapery and the misspelling of the name, doubted its authenticity.

Satyr and Eros.—In *C. R. Acad. Insc.* 1911, pp. 352–355 (fig.), A. HÉRON DE VILLEFOSSE publishes a carnelian intaglio in his own collection upon which is represented a youthful satyr standing with right foot raised and supporting a little Eros whose two hands he holds (Fig. 2). Below is the name PHILO. The same scene



FIGURE 2. — SATYR
AND EROS. IN-
TAGLIO.

appears on a gem in Vienna, and the coins of Pergamon and Nysa have a somewhat similar design. The group seems to have been popular in the time of the Roman empire and to have been of Asiatic or Alexandrian origin.

The Marbles from Mahdia.—In *R. Arch.* XVIII, 1911, pp. 92-126 (11 figs.), A. MERLIN and L. POINSSOT describe and discuss seventeen works in marble which were discovered in the sea near Mahdia, Tunisia (see *A.J.A.* XIII, 1909, pp. 102-103; 374; XIV, p. 248; 388 f.; XV, pp. 112 f.; 551 f.). They have suffered more than the bronzes from the action of the water. The marble all seems to be Attic, probably from Hymettus. The different works, statues, etc., were originally made of several pieces joined together. The most complete piece is the head of Aphrodite (*A.J.A.* XIV, p. 388, Fig. 7), a late Attic type, influenced by Praxiteles. Heads of Niobe and two Niobids are not exact replicas of any others known, but proved the popularity of the composition best known through the statues in Florence. Two further heads are those of a male and a female satyr. Two torsos of youths, and several fragments (part of a bust of Heracles, two human legs, three forearms, besides a few small pieces) complete the list of statues. Two statuettes of Artemis in a short tunic (one of which is almost complete though wanting the head and both arms) and five statuettes of children (only one of which is at all complete, and the head of that is ruined by corrosion) are described. A large head of a bearded Pan (0.40 m. high) in high relief was intended to be fastened to a flat background. Of the two bas-reliefs found, one represents the sacred banquet offered to Asclepius, the other, much mutilated, represents a seated goddess, perhaps Cybele. This may have been taken from the Metroum at the Piraeus, and the sacred banquet from the Asclepieum when Sulla's army pillaged the place in 86 B.C.

Bronze Statuettes from Mahdia.—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 211-230 (4 figs.), A. MERLIN and L. POINSSOT describe four bronze statuettes found in the sea near Mahdia. (1) One represents a comic actor with legs crossed seated on top of a column, perhaps originally part of a lamp stand. It had an artificial patina. The three other figures, a satyr, a dancing Eros, and a standing actor, were never completely finished and show marks of the casting. (2) The satyr has lost both arms and one leg from above the knee. It is 19 cm. high and was inspired by a fourth century original. (3) The Eros is represented as a winged child, 13 cm. high, stepping forward with hands raised, in the dance. (4) The actor has a bearded mask and is gesticulating with both hands. All of these figures show affinities with neo-Attic sculpture.

Hestia on the Omphalos.—Two incomplete inscriptions from Delos, the accounts of Anthesterius and of Callistratus, mention two statues of Hestia in the prytaneum. One, of bronze, was seated on a small stone altar (ἐπὶ βωμίσκον λιθίνον καθήμενῃν); the other was about two feet high and was seated on an omphalos (ὡς διποῦν ἐπ' ὀμφάλου καθήμενῃν). The omphalos was then an attribute of Hestia. Several figures hitherto called by other names may now be called Hestia. (P. ROUSSEL, *R. Arch.* XVIII, 1911, pp. 86-91.)

The Imagery of Alexander.—In *R. Arch.* XVIII, 1911, pp. 290-296 (figs.), G. BLUM discusses a small bronze bust from Lower Egypt, now in

the Fouquet collection in Cairo. It represents Alexander with the uraeus, a crown of rays, and an imbricated breastplate. It belongs to the imagery, rather than to the portraiture, of Alexander and represents less the man than the heroized or deified founder of the city, as he was worshipped at Alexandria. Other examples of the same class of representation are cited. Such works make the iconography of Alexander difficult and, in some degree, uncertain. Some errors of writers on the subject are pointed out.

Polybius and Damophon. — In *Sitzb. Sächs. Ges.* LXIII, 1911, i, pp. 3-15 (2 pls.), FRANZ STUDNICZKA discusses the relief from Cleitor in Arcadia (*Ath. Mitt.* VI, 1881, pl. 5; Baumeister, *Denkmäler*, III, p. 2027; cf. Bernoulli, *Griech. Ikonogr.* II, pp. 184 ff.; Hitzig-Blümner, Pausanias, III, i, p. 138), which he claims, by citation of ancient authors and comparison with the sculptors from Lycosura, to be a portrait of Polybius by Damophon.

The Monument of the Aetolians at Delphi. — In *J. Int. Arch. Num.* XIII, 1911, pp. 177-240 (pl.; 5 figs.), A. J.-REINACH identifies two blocks carved with shields in the museum at Delphi as part of the monument of the Aetolians erected at Delphi to commemorate their victory over the Gauls. The monument is reproduced on Aetolian coins. It consisted of a bronze figure of Aetolia, with a flat hat on her head, seated upon a support to which Gallic shields and other spoils were attached. With her right hand she grasped a spear which rested on the ground and with her left held a sheathed sword. The monument was placed upon a two-stepped hexagonal base, part of which has recently been identified.

The Sandal in the Palazzo dei Conservatori. — In *J.H.S.* XXXI, 1911, pp. 308-314 (3 figs.), G. DICKENS makes a plea for assigning to Damophon the fragment of a sandal and foot which is preserved in the Palazzo dei Conservatori. It is generally admitted to be of Greek marble and Greek workmanship and Hellenistic date, probably of the third or second century B.C. It comes from a colossal acrolithic statue, such as Damophon was likely to make, and the frieze around the high "Tyrrhenian" sandal, a marine procession, corresponds closely in design and execution to one of the bands of relief on the Lycosura drapery.

VASES AND PAINTING

The Aristonous Vase. — In *Mél. Arch. Hist.* XXXI, 1911, pp. 33-74, P. DUCATI discusses in detail the crater of Aristonous, now in the Palazzo dei Conservatori, Rome, reviews and criticises the theories of other scholars, and comes himself to the conclusion that the vase is a product of Attic derivation but manufactured in Italy, probably at Cumae, in the second half of the seventh century B.C.

The Master of the Berlin Amphora. — The unnamed, but important Attic vase-painter of the severe period whose best-known work is the Berlin amphora No. 2160, has such a well-marked style that J. D. BEAZLEY has been able to assign to him thirty-seven other vases of various shapes, and to his school or direct imitators twenty-nine more. They include amphoras of various kinds, stamni, craters, among them the four earliest bell-craters known, hydriae and lecythi. All these vases are minutely analyzed in shape, ornament, and picture-decoration, in *J.H.S.* XXXI, 1911, pp. 276-295

(10 pls.; 9 figs.). The figures, whether divine, human, or animal, are peculiarly graceful and charming, suggesting the poet's νεόγυνος ἦβα.

Greek Vases in Ferrara.—In *Boll. Arte*, V, 1911, pp. 341–346 (4 figs.), A. NEGRIOLI publishes three Greek vases in the Museo di Schifanoia, Ferrara. They are: 1. A red-figured cylix, black on the under side; on the inside is a bearded male figure with horn in one hand and pitcher in the other running to the left. He has the himation over his shoulders (Fig. 3). In the field to the inscription ΕΠΙΚΤΕΤΟΣ ΕΛΡΑΦΞΕΝ. 2. A similar cylix, black on the outside, has in the centre a standing nude



FIGURE 3. — VASE SIGNED BY EPICTETUS.

youth pouring oil from a flask into his outstretched left hand. His clothes are piled upon a stool. In the field are the words MEMON KALOS. 3. A third cylix, in the style of Brygos, is adorned with Bacchic scenes. On the under side are two groups of three Maenads and a Satyr. One of the Maenads on one side is mounted on a mule.

Two Vase Paintings.—In *Rend. Acc. Lincei*, XX, 1911, pp. 142–154, P. DUCATI discusses two vase paintings; one on a cup from Naucratis shows a female figure, surrounded by small winged beings. Studniczka and others, because of their conviction that this and similar vases are Cyrenaic, call her the nymph Cyrene, attended by Boreads and Harpies (cf. Philodemus, *Περὶ εὐσεβείας*, p. 43). Ducati, noting that the British discoveries at Sparta have shown such vases to be of Spartan origin, suggests that the vase represents Persephone, holding a pomegranate, as emblematic of the sacred tree which the εἰδωλα of the dead are worshipping in the hope of a return to earth. There may be, he thinks, a suggestion of palingenesis or

of metempsychosis in this painting from Naucratis, where Pythagoras, the expounder of this doctrine, lived, in the century in which this vase was made. With regard to the second vase Ducati maintains that the winged warrior flying from a ship, represented on an Attic amphora of the British Museum (Gerhard, *Auserlesene Vasenbilder*, pl. 198), is not an εἰδωλον or φάντασμα of Achilles, as in the *Hecuba* of Euripides (110-112), but rather the hero himself transported to the Islands of the Blessed, as told in the *Aethiopis*. He calls attention to the resemblance between the winged figure and one of the two warriors in combat on the other side of the vase, which, he thinks, pictures a duel between Memnon and Achilles.

An Attic Crater of Felsina.—In *Rend. Acc. Lincei*, XX, 1911, pp. 248-266 (pl.), P. DUCATI presents some observations on an Attic crater, distinguished by having white color freely used on the figures, published by Pellegrini in his *Catalogo dei vasi greci dipinti delle necropoli felsinee*, p. 147 sq. No. 304, Fig. 84. The vase represents Dionysus and Ariadne guided by Erotes and attended by Maenads and Satyrs, but is not, as Von Salis thinks, their wedding procession on the occasion of Theseus' abandonment (he compares Pausanias' description (I, 20, 3) of the paintings in the temple of Dionysus Eleutherius at Athens), but rather a reunion, representing a cult-scene of the Χῶες at the Anthesteria, with Ariadne, as a kind of Aphrodite, typifying the wife of the Archon Basileus in her marriage to the god Dionysus. Ducati places the vase in the first half of the fourth century B.C., or even in its first decades, and makes the chronology of the decadent Attic art depend on this. Thus the Palermo Phaon-crater precedes this one and is in turn preceded by the Midias crater of London, giving us as the epoch of the Midias cycle the years 420-400 B.C., and not as Nicole and Hauser think, 400-350 B.C. The Peloponnesian War did not, he thinks, interfere with the production of pottery.

A Panathenaic Amphora from Camirus.—In *B.S.A.* XVI (session 1909-1910), pp. 206-211 (pl.; fig.), A. M. WOODWARD publishes fragments of an early Panathenaic amphora on which the Armed Race was represented. Of one side only parts of Athena's shield and drapery and of the column are preserved; of the other side, nearly all of one running hoplite and small portions of two others. Probably there were no more on this vase. This is a small-sized vase; perhaps the small vases were second prizes. Two small fragments of fourth-century Panathenaic vases recently obtained at Athens are reproduced. Each bears the end of the customary inscription (ΑΘΛΩΝ and ΕΝΑΘΛΩΝ).

The Contest of Poseidon and Athena.—In *C. R. Acad. Insc.* 1911, pp. 341-348 (2 figs.), M. COLLIGNON publishes an Apulian crater in Madrid on which is painted the contest of Poseidon and Athena for the supremacy of Athens (Fig. 4). He proves that it belongs to the series of monuments shown by Stephani and Robert to reproduce the group seen by Pausanias on the Acropolis at Athens. The painter has introduced a winged horse, Nike, Cecrops, and Dionysus which formed no part of the original monument. This vase painting is the earliest reproduction of the group.

Greek Vases in Athens.—The rapid increase in the number of vases in the National Museum at Athens since the publication in 1902 of the *Catalogue* of Collignon and Couve has made necessary a supplement. This is now supplied by G. NICOLE in a substantial volume of 351 pages, and a

volume of plates. The descriptions of the different vases are ample, and the plates excellent. [*Catalogue des vases peints du Musée National d'Athènes*. Supplément. Par GEORGES NICOLE. Avec une préface de Maxime Collignon. Paris, 1911, H. Champion. Text: x, 351 pp.; 10 pls. Plates: 21 pls. 70 fr.]

Greek Vases in Marseilles.—In *C. R. Acad. Insc.* 1911, pp. 380–386 (3 figs.), G. VASSEUR shows that the three vases with geometric designs



FIGURE 4. — APULIAN CRATER. CONTEST OF ATHENA AND POSEIDON.

supposed to have been found at the Bassin de Carénage, Marseilles, came from other places. The tombs on this site are not earlier than the third century B.C.

A Note on the Jatta Vase.—In *R. Ét. Anc.* XIII, 1911, pp. 416–420, W. DEONNA argues that the scene on the Jatta vase (*Mon. Ant.* IX, 1899, pp. 193 ff.) does not represent a Laocoön scene, but rather a woman fleeing for refuge to a statue of Apollo. The serpents had come to her assistance. He thinks that the painter had in mind a statue of Apollo encircled with serpents, and compares the statuette found on the Janiculum by Gauckler and Darier.

Greek Painting.—In *Jb. Kl. Alt.* XXVII, 1911, pp. 161–185, (3 pls.), E. PFUHL publishes a study of Greek painting.

A Hero and Leander by Apelles.—The conjecture of J. SIX that the

group of Hero and Leander on coins of Abydus came from a painting by Apelles (*Jb. Arch. I. XXV*, p. 149) has found confirmation in a passage from Theopompus which Domitius quotes, probably from Varro, in his commentary on Statius, *Silvae*, I, 2, 87 ff. This distinctly states that Apelles painted the two lovers. In the *Thebae*, VI, 54, Statius actually describes such a picture. (*Jb. Arch. I. XXVI*, 1911, pp. 22-23.)

Mosaics by Dioscurides of Samos.—A somewhat detailed technical and aesthetic study, by Miss M. BIEBER and G. RODENWALDT, of the two remarkable Pompeian mosaics in the Naples museum which are signed by Dioscurides of Samos, is published in *Jb. Arch. I. XXVI*, 1911, pp. 1-22 (8 figs.). The mosaics date probably from the end of the second century B.C. and are copied from late fourth-century votive paintings. The fidelity with which they reproduce the expression, lighting and modelling, the harmony of colors, though perhaps in a slightly lowered key, and almost the technique of the original painting, *a tempera*, make them of great value in the study of Greek paintings and through the originals thus brought before us they illustrate clearly some points of daily life and theatrical usage in early Hellenistic times. The cement bed in which the tesserae are laid is varied in color to match the stones it receives, and the stones themselves, averaging in general 2.50 mm. in length, are reduced in places to 1 mm. by $\frac{1}{2}$ mm., to represent the very brushmarks of the painting. The ground, in horizontal courses, was laid after the figures, as is shown by the double line of tesserae of a slightly darker shade which follows the outline of the figures. Costumes and masks show that the scenes are both taken from the New Comedy. One is a group of street musicians who might well be the begging priest of Cybele from the *Metragyrtes* of Antiphanes or of Menander. The other, an old woman who deals in magic, with two of her young clients, is most nearly paralleled in Theocritus and Herodas. In the theatre, both scenes were evidently set on the upper stage, above the proscenium, and the second is a rare example of an indoor scene set just inside the open door of the σκηνή itself. It shows the device of a second platform raised on three steps to bring the figures into the view of the front row of spectators and the additional plain wall behind the opening, which have been inferred as necessary adjuncts of such scenes. The importance of these mosaics makes it very desirable that faithful colored reproductions should be published.

INSCRIPTIONS

The Disk of Phaestus.—*R. Ét. Anc. XIII*, 1911, pp. 296-312 (2 figs.), A. CUNY thinks that the signs on each side of the disk found at Phaestus may be divided into seven sections of thirty groups each. He believes that the mark at the end of certain characters denotes punctuation. He argues that the writing is cryptographic in character, and that the disk was perhaps an amulet. In *Nature*, May 18, 1911, JOHN GRIFFITH reads it as a calendar.

Inscriptions from Rantidi in Cyprus.—In *Sitzb. Berl. Akad.* 1911, No. xxviii, pp. 630-650 (pl.), is an article by RICHARD MEISTER in which the text of 139 inscriptions from Rantidi in Cyprus is given, so far as any text is decipherable, with brief comment. Nos. 1-10 were known before Dr. Zahn's excavations. The others are new. Many are dedications to Apollo

or Aphrodite, others are dedications lacking the name of any deity, others consist of proper names. Nearly all are fragmentary, and many are so fragmentary that only isolated signs can be deciphered, while some offer no clear signs at all. One is, perhaps, Phoenician, the others Cypriote Greek.

Cypriote Inscriptions. — In *Sitzb. Sächs. Ges.* LXIII, 1911, ii, pp. 17–38 (2 pls.), RICHARD MEISTER ('Beiträge zur griechischen Epigraphik und Dialektologie, X') discusses the inscription of Gilozama (Cesnola, *Cyprus*, p. 159, German edition, pl. 33, No. 3, Descriptive Atlas, I, pl. 85, No. 560; Hall, *J.A.O.S.* XI, 1885, 232, No. 1), the old Phrygian inscription of Arezastis (Ramsay, *Journal of the Royal Asiatic Society*, XV, 1883, pp. 100 ff., pl. 2, Nos. 7 and 8), and the Cypriote inscriptions on six seals and gems, giving readings, Greek transliterations, translations, and notes.

Cleobis and Biton. — The conjectural identification of the two oldest statues found at Delphi as the brothers Cleobis and Biton of Argos, who drew their mother's carriage to the Heraeum, is rendered certain by the discovery of one half of the second plinth with an important part of the inscription (see *A.J.A.* XV, p. 227). This can now be clearly read, on the upper side of the two bases and running in opposite directions on the two stones, as if to be read by a person standing between them:

[ΚΛΕΟΒΙΞ ΚΑΙ ΒΙ]ΤΟΝ: ΤΑΝ ΜΑΤΑΡΑ:
ΕΑΓΑΓΟΝ: ΤΟΙ ΔΥΙΟΙ:
ΠΟ[ΛΥ]ΜΕΔΕΞ ΕΠΟΙΕΕ ΗΡΓΕΙΟΣ

This is one more proof of the accuracy of Herodotus. Plutarch and Pausanias do not mention the pair, perhaps because the statues were buried at the time of the destruction of the temple in 360 B.C. They appear to date from the middle of the sixth century and may have stood originally, with the offerings of Croesus, in the pronaos of the pre-Alcmaeonid temple. (*Arch. Anz.* 1911, cols. 46–50; fig.) At the May (1910) meeting of the Archaeological Society at Berlin, H. Pomtow read a paper on the statues, confirming A. V. Premerstein's reading of the inscription, though substituting τοί δ' υἱοί for τοῖ δυοῖ (= τῷ ζυγῷ). (*Berl. Phil. W.* XXXI, 1911, cols. 787 ff.) In *Philologus*, LXX, 1911, pp. 312–313, J. BAUNACK argues that εάγαγον is an impossible form, and that the Ε belongs to a missing word. He would restore [Κλέοβις καὶ Βί]τον τὰν ματάρα [Ἡεραίωνδ] | εάγαγον τοῖ δυοῖ.

Inscriptions from Praesus. — In *B.S.A.* XVI (session 1909–10), pp. 281–289, R. C. BOSANQUET publishes sixteen inscriptions, thirteen of which are from Praesus and the rest from the neighborhood. They were found in the excavations of 1901 and 1904. Nearly all are very fragmentary, and their chief interest consists in the indication they furnish that the sanctuary on the Altar-hill — Dr. Halbherr's "Third Acropolis" — was the place where official documents, etc., were exhibited. One fragment partially supplements the decree in honor of two Athenians — Leon, son of Pausanias, and Thrason, son of Thrasonides (not son of Thrason), — published by Halbherr in *Museo Italiano*, III, p. 599.

Attic Building Records. — In *B.S.A.* XVI (session 1909–10), pp. 187–205, A. M. WOODWARD publishes three new fragments of Attic building

records found by him in the Epigraphical Museum at Athens—two from the record of the Parthenon, one from that of the Propylaea. The first reads, as restored: [τοῖς ἐπιστάτεσι ἡο[ῖς Ἀντ(ορ ι)]] ἐγραμμάτευεν | [ἐπὶ τῆς ἑνδεκάτης] βολῆς ἡεῖ [Πε]ιθαῖδες πρῶτος ἔγρα | [μμάτευεν, ἐπὶ Εὐθυμέν]ος ἄρχον[τ]ος Ἀθηναίωσιν. | [λέμματα τῷ ἐνιαυτῷ τοῦτο τὰδε, when combined with the fragment recently added by Cavaignac, *Études sur l'histoire financière d'Athènes au V^e siècle: le Trésor d'Athènes de 480 à 404* [Paris, 1908], Introd. pp. 1 ff, and pl. II. Cavaignac's arrangement of fragments and some of his results are criticised. The second fragment must be assigned to the reverse face of the stele, either to year X or year XIII. It contains a reference to work on the pediment sculptures. The bearing of this upon the dates of the works of Phidias is discussed. The fragment of the record of the Propylaea is identified in part by establishing the fact that the stele decreased in thickness from the bottom upwards, and a reconstruction of the whole stele is outlined. The new fragment contains portions of ten lines relating to years IV and V.

Inscriptions from the Agora in Athens.—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 401–407, G. P. ΟΙΚΟΝΟΜΟΣ continues his article (*ibid.* 1910, pp. 1–28) by the publication of a fourth inscription from the Athenian agora, a preliminary decree of the Boule, passed in 302–301 B.C., bestowing a crown and proëdria upon the taxiarchs of 305–304 collectively, who had already been crowned individually. This honor was evidently for services in resisting the invasion of Cassander, who was finally repulsed by the help of Demetrius. The decree was passed the day before, *I.G.* II, 269, and makes it possible to restore correctly the date of the latter.

Inscriptions from Lycosura.—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 393–394, F. HILLER suggests [ἀ] π[ό]λις Κ[αφνα]τ[ᾶ]ν instead of Κ[αλητορ]ῆ[ων] as the city that erected the statue of Lydiadas of Megalopolis at Lycosura, the inscribed pedestal of which was published by Leonardos, *ibid.* 1896, p. 263, No. 1. He regards the inscription as surely of the third century, probably 228–226 B.C., and accordingly the Lydiadas honored was he who died fighting Cleomenes in 226. In pp. 395–396 he restores three fragments of an inscribed pedestal as a third dedication of Xenophilus, son of Damophon of Messene (for the two others cf. Dickens, *B.S.A.* XII, 1905–06, pp. 132–133).

Thessalian Inscriptions.—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 331–382 (9 figs.) (correction noted p. 408), A. S. ARVANITOPOULLOS begins the publication of numerous Thessalian inscriptions found too late to be included in *I.G.* IX.² This first installment contains twenty-five inscriptions from Larisa in Pelasgiotis. Three honorary decrees throw important light upon the Thessalian League founded by Flaminius in 197 B.C.; one gives a list of winners in a bull-fight; one is a testament (?) dedicating to Augustus an estate of a freedman, who was supervisor of the imperial revenues from inheritances. Besides these are two lists of manumitted slaves, eleven burial inscriptions, two statue bases, and three ex-votos, one of them dedicated to the Cabiri by the distinguished general Eunomus (cf. Livy, 35, 39).

Inscriptions in Chios.—In *Jh. Oest. Arch.* I. XIV, 1911, Beiblatt, cols. 49–56 (4 figs.), J. KEIL, as the result of a new examination of the stones, is able to correct the reading in a number of places in the inscriptions from

Erythrae now in Chios. He also publishes two inscriptions from Clazomenae.

Inscriptions from Seleucia. — In *Mél. Fac. Or.* V, 1911, pp. 329–332, L. JALABERT discusses three Greek inscriptions from Seleucia published by Abel in *R. Bibl.* 1911, pp. 117 f.

The Grave Inscription of Bishop Eugenius. — In *Klio*, XI, 1911, pp. 388–390, A. WILHELM proposes certain corrections in the restoration of the last three lines of the grave inscription of Bishop Eugenius, copied by W. M. Calder in *Ladik* in 1908. Among others he reads in l. 19 τῆς τε ἐκλ[ησίας κὲ] τοῦ γένους μου, instead of τῆς τε ἐκλ[ογῆς ἀπ'] ὃ κ.τ.λ.

Epigraphical Notes. — In 'Αρχ. 'Εφ. (formerly 'Εφ. 'Αρχ.), 1910, pp. 399–400, S. VASES publishes short notes criticising in certain details 'Εφ. 'Αρχ. 1909, p. 276, and 1910, p. 73.

Epigraphic Bulletin. — In *R. Ét. Gr.* XXIV, 1911, pp. 291–333, A. J. REINACH publishes a bulletin of Greek epigraphic literature for the year.

COINS

The Coinage of the Ionian Revolt. — In *J.H.S.* XXXI, 1911, pp. 151–160 (pl.), P. GARDNER points out the very strong probability that a certain set of electrum coins of Ionia dated about 500 B.C., of uniform weight and alloy, and with the same reverse stamp but different obverse types and no letters, were struck by the various cities which formed a sort of league, τὸ κοινὸν τῶν Ἰόνων (Herod., V, 109), at the beginning of the Ionian revolt. It is probable also that the movement originated with Chios and that the coins, which are of about the value of a Daric, represent the monthly pay of the soldiers and sailors (Xen. *Anab.* I, 3, 21). A similar league-coinage was issued by the cities of Magna Graecia about 550 B.C. and by other groups of states in later times.

Coins of Scyros. — In *J. Int. Arch. Num.* XIII, 1911, pp. 127–130 (pl.), I. N. SVORONOS publishes five early coins of Scyros, as well as four others issued by Athenian clerouchs, one for Scyros, two for Imbros, and one for Lemnos.

The Coin Collection of Helene Mavrokordatou. — In *J. Int. Arch. Num.* XIII, 1911, pp. 241–300 (8 pls.), I. N. SVORONOS describes 1037 Greek coins in the collection made by Helene N. Mavrokordatou, now in the possession of G. N. Baltatzes. The collection is remarkable for the fine condition of most of the coins. One specimen is identified as a coin of Olophryxus, a town on the Strymonian Gulf not previously represented in Greek numismatics. The remaining coins will be described in a second article.

Unpublished Greek Coins. — Some unpublished Greek coins of Chios, Erythrae, Athens, Aegina (?), Locri Opuntii, and Syracuse from the collection of J. MAVROGORDATO are described and discussed by him in *Num. Chron.* 1911, pp. 85–100 (pl.), "although no one of them can claim to be of first-rate importance." In *Num. Z.* 1910, pp. 7–32 (3 pls.), J. SCHOLZ publishes 175 apparently previously unpublished Greek coins from his own collection, most of them of the time of the Roman empire.

A New Syracusan Tetradrachm. — A tetradrachm of Syracuse, of the usual types, but accompanied by the artist-signature YONEMYΘ is published by PH. LEDERER in *Num. Z.* 1910, pp. 1–6 (fig.).

Hoard of Coins from Delos. — I. N. SVORONOS has already published some account of a large find (3797 pieces) of coins of the Constantinian period on the island of Delos. W. KUBITSCHKE now makes some contributions to the dating and scientific appraisal of the find. (*Num. Z.* 1911, pp. 50-53.)

Janiscus and the Boy Asclepius. — In *J. Int. Arch. Num.* XIII, 1911, pp. 113-130 (2 pls.), I. N. SVORONOS reprints his article on Janiscus and the boy Asclepius in *Ἐφ. Ἀρχ.* 1910 (*A.J.A.* XV, p. 232) and publishes in addition thirty-four coins to prove his point.

Coinage of Alexander the Great. — E. T. NEWELL publishes in *A. J. Num.* XLV, 1911, pp. 37-45, 113-125 (8 pls.), the second and third of his articles (which are to be continued) on the reattribution of certain tetradrachms of Alexander the Great.

Errors of the Alexandrian Mint. — A few errors and exchanges of legend on coins of the late second and of the third centuries made at the mint of Alexandria are described by L. LAFFRANCHI in *Boll. Num.* IX, 1911, pp. 113-116.

Coins of the Seleucidae. — In *J. Int. Arch. Num.* XIII, 1911, pp. 131-176 (pl.), W. v. VOIGT describes 789 coins of the Seleucidae, 18 of Armenia, and 18 of the kings of Commagene now in the Hermitage at St. Petersburg.

GENERAL AND MISCELLANEOUS

Cretan Influence in Early Greek Art. — In *Jh. Oest. Arch.* I. XIV, 1911, pp. 1-34 (36 figs.) E. LOEWY discusses various representations of animals such as the lion, horse, boar, and cattle in early Greek art and shows the influence upon them of Cretan art. This may also be seen in such a group as Europa on the bull from Selinus; or again in the painted antefixes found at Thermus and at various archaic temple sites in Italy.

Mochlos. — In 1908 Mr. Richard B. Seager carried on excavations on the little island of Mochlos on the east coast of Crete for the American School of Classical Studies at Athens, and the Boston Museum of Fine Arts. A report of the work was published in *A.J.A.* XIII, 1909, pp. 273 ff. The final report is now presented in a substantial volume of 111 pages. The finds belong to all periods from Early Minoan I to Late Minoan I, but most of them date from Early Minoan II and III. In addition to the clay vases, one hundred and thirty stone vases and a considerable amount of jewelry were found. The contents of the different tombs are discussed in detail. The colored plates, eleven in number, are especially good. [*Explorations in the Island of Mochlos.* By RICHARD B. SEAGER. Boston and New York, 1912, American School of Classical Studies at Athens, 111 pp.; 11 pls.; 54 figs. 4to. \$6.]

A Heraeum at Tiryns. — A. Frickenhaus at the May (1910) meeting of the Berlin Archaeological Society explained that a study of the site and remains of the Heraeum at Argos had led to the conclusion that this place was once an independent town named Prosymna, and that Hera was the household goddess of the reigning family. When Mycenaean and Argives conquered the place, about 700 B.C., and deposed the king, they adopted his patroness and built her a temple on the site of the palace. In a similar way a Hera who was worshipped by the royal house of Tiryns from the second

millennium down to the overthrow of the family about 650, was taken over by the community as a public patroness and a temple built where the palace had been, with the altar in its old place. The series of votive offerings of bronze, terra-cotta, etc., begins in each case with the change from a family to a community goddess. The terra-cottas at Tiryns represent either Hera Antheia, decked with flowers, or an ancient wooden image. This course of events is typical of what happened in many cities, Athens among the number. (*Arch. Anz.* 1911, cols. 51-54.)

The Sanctuary of the Hero Physician.—In 'Αρχ. 'Εφ. (formerly 'Εφ. 'Αρχ.), 1910, pp. 267-270 (fig.), PHR. BERSAKES describes foundation walls, dating between about 400 and 350 B.C., recently uncovered at 48 Praxiteles Street, Athens. These he thinks belong to the sanctuary of the Hero Physician, from which inscribed bases (*I.G.* II, 403, 404) were found in 1874 at a distance of some 220 m. (cf. *Demos.* XIX, 249 [419, 22]).

Archaic Gold Ornaments.—Three notes supplementing his recently published *Catalogue of the Jewelry in the British Museum*, are given by F. H. MARSHALL in *J.H.S.* XXXI, 1911, pp. 263-265 (3 figs.). They concern

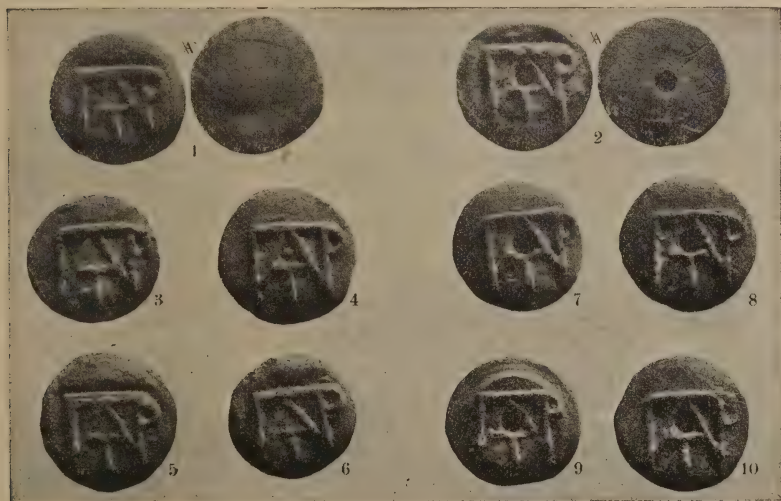


FIGURE 5. — EPIROTE VOTING DISKS.

some minute gold sphinxes with women's and rams' heads on an Etrusco-Ionian fibula of the seventh century B.C., found in the Roman Campagna; a gold plaque of unknown origin showing a siren or sphinx in front-view carrying off two unresisting youths, Ionian or Etrusco-Ionian work of the end of the sixth century; and three minute winged heads doubtless meant for sirens' heads, on the inside of an early Etruscan bracelet.

Epirote Voting Disks.—In *J. Int. Arch. Num.* XIII, 1911, pp. 121-126 (pl.; 5 figs.), I. N. SVORONOS publishes a bronze disk from Epirus on one side of which in monogram are the letters ΑΠΡΑΝ; the other side is smooth

(Fig. 5). Nine other specimens are in the Karapanos collection from Dodona, now in the National Museum at Athens. Some of them have holes in the middle. The writer shows that they are Epirote voting disks and that the monogram stands for ΑΠΕΙΡΩΤΑΝ. Incidentally the interpretation of this monogram explains a similar monogram on a series of bronze coins not hitherto understood.

The Meniscus. — In *Jb. Arch. I.* XXVI, 1911, pp. 48-49, E. PETERSEN has a few remarks on the meniscus or three-cornered crescent found in the Menelaum at Sparta and published in *B.S.A.* XV, p. 149. As a device for protecting the head of a statue from birds, it is a form derived from the simple spike, which was also extensively used, and indeed appears here as the axis on which the movable crescent turns, thickened above and below to keep the latter from slipping up or down.

Representations of the Omphalos. — In *J. Int. Arch. Num.* XIII, 1911, pp. 301-316 (13 figs.), I. N. SVORONOS discusses an unpublished decree in Athens relating to an ἐξηγητής (mentioned by Wilhelm, *Jh. Oest. Arch. I.* 1898, Beiblatt, col. 43). Above the text between two standing figures are two eagles on either side of an omphalos. The writer attempts a restoration of the inscription; and shows that representations of the omphalos were common in temples of Pythian Apollo. The eagles represent the golden eagles which were destroyed by the Phocians.

A Contemporary Defence of Lord Elgin. — In *Athen.* October 7, 1911, pp. 433-434 a contemporary defence of Lord Elgin for his removal of the Parthenon marbles which has hitherto escaped notice is reprinted. It appeared in *The Belle Assemblée* for August, 1810, and recounts how the Turks were destroying the sculptures for lime at the time Lord Elgin removed them from Athens.

Notes on Thessalian Antiquities. — In 'Αρχ. 'Εφ. (formerly 'Εφ. 'Αρχ.), 1910, pp. 407-408, A. S. ARVANITOPOULLOS notes a few additions and corrections to his article, *ibid.*, pp. 87, 89-90, 91, and to an article by Hiller in *Hermes*, XLVI, 1911, p. 154. He also criticises Hiller for publishing (*Berl. Phil. W.* 1911, p. 62) without due acknowledgment material supplied by himself.

Nauarch and Nesiarch. — From Delian and other inscriptions, W. W. TARN has got together the scanty available facts about the six or seven men who held the offices of Nauarch and Nesiarch in the Aegean under Ptolemy Philadelphus, and concludes that the Nauarch was virtually viceroy of the islands, in many instances exercising the authority of the king, while the Nesiarch was only a sort of Egyptian Resident, acting as a channel of communication between the islanders and the king, but wholly lacking in authority. (*J.H.S.* XXXI, 1911, pp. 251-259.)

Psyttaleia. — In 'Αρχ. 'Εφ. (formerly 'Εφ. 'Αρχ.), 1910, pp. 383-393, K. J. BELOCH, reiterating his view set forth in *Klio*, VIII, 1908, pp. 477 ff., that Psyttaleia is to be identified with the island of St. George, well within the straits of Salamis, instead of Lipsokoutala, which is outside in the direction of Piraeus, answers, point by point, the criticism of this view by P. D. Rhediades in 'Εφ. 'Αρχ. 1909, pp. 45 ff.

Odysseus the Ascetic. — In *Mitt. Vorderas. Ges.* XVI, 1911, 4 (viii, 215 pp.), C. FRIES publishes under the title 'Studien zur Odyssee. II. Odysseus der Bhikshu' an elaborate study in which he compares the wander-

ings and sufferings of Odysseus to those of an Oriental hero undertaken for purposes of purification. Odysseus is a cosmic hero. He is the Sun which puts to flight the Stars (suitors) which surround the Moon (Penelope).

Methods of Wearing the Hair in Athens. — In *Class. Phil.* VI, 1911, pp. 479-481, F. B. TARBELL discusses the archaeological evidence for the methods of hair-dressing used by girls and by married women at Athens.

The Greek Commonwealth. — Another book of popularization in the best sense has been issued by the Clarendon Press (ALFRED E. ZIMMERN, *The Greek Commonwealth; Politics and Economics in Fifth-century Athens*, Oxford, 1911, Clarendon Press. 454 pp.; 2 maps. 8vo. 8s. 6d. net). After four short chapters on the geography of Greece, the author discusses Politics in eight chapters: 'Fellowship, or the Rule of Public Opinion'; 'Custom or the Rule of the Family'; 'Efficiency, or the Rule of the Magistrate'; 'Gentleness, or the Rule of Religion'; 'Law, or the Rule of Fair Play'; 'Self-government, or the Rule of the People'; 'Liberty, or the Rule of Empire'; 'Happiness, or the Rule of Love.' The last chapter is a new translation of the funeral speech which Thucydides put into the mouth of Pericles. Seventeen chapters on Economics follow: One on 'Poverty'; one on 'Use and Want'; four on 'The Growing City'; six on 'City Economics'; five on 'Imperial Economics.' The Conclusion treats of the Peloponnesian War. A chronological table, indexes, etc., are appended. The attempt is made to infuse life into our conceptions of Greek life and history, especially at Athens, but also, in so far as our information suffices, elsewhere. The thoughts and habits that underlay the sturdy and enthusiastic patriotism of the Athenians are, even more than the material aspects of ancient life, the real subject of the book. All sources of information — literary, epigraphical, and archaeological — are drawn upon.

Some Dorian Descendants? — In *B.S.A.* XVI (session 1909-1910), pp. 258-280 (2 pls.; 3 figs.), CHARLES H. HAWES publishes measurements and descriptions of the Albanians (Chegs), Tsakonians, and Sphakiots (in southwestern Crete), all of whom claim Dorian ancestry. He finds that no race is pure, but there is considerable agreement among the three, more particularly in the structural characteristics; and there is remarkable accord in the sagittal contours of the head. The main type is inclined to be of a more than average stature, and though in the main dark, has a considerable percentage of lighter-eyed, and a sprinkling of light or medium-haired.

North Greek Festivals and the Worship of Dionysus. — In *B.S.A.* XVI (session 1909-1910), pp. 232-253 (10 figs.), A. J. B. WACE describes festivals still celebrated, though with less completeness than a few decades ago, in northern Greece. In some regions the celebration takes place at or about the New Year, in others in the spring. A feature common to all is the death and resurrection of some one, usually a bridegroom. In most cases one of the two principal characters is disguised in skins or wears a skin mask. The songs sung often have to do with harvest, rain, or the like. Whether the festival is a survival of the worship of Dionysus or not, it is impossible to say.

The Hybristika. — In *B.S.A.* XVI (session 1909-1910), pp. 212-219, W. R. HALIDAY discusses Herodotus VI, 83 (the account of the straits to which Argos was reduced by the victory of Cleomenes I), Plutarch, *Mul. Vist.* 245, E, F, and the various festivals in which women wear men's clothes,

men wear women's clothes, and slaves enjoy temporary freedom. These festivals may be originally connected with the passing from childhood to manhood or womanhood, or with marriage, and there hangs about them a sentiment of unity and good will, similar to that expressed by the exchange of gifts and cards at Christmas or the New Year.

ITALY

ARCHITECTURE

Wooden Temples of Central Italy.—The reconstruction of the ancient wooden temples of the Latins and Etruscans as covered with a sheathing of painted terra-cotta on walls as well as roof and cornice, was discussed by Herr Borrmann at the April (1910) meeting of the Berlin Archaeological Society, in connection with a posthumous publication on that subject from the Danish archaeologist, Ludvig Fenger, who died March 9, 1905. (*Arch. Anz.* 1911, cols. 41–42.)

The Temple of the Dioscuri at Naples.—The pediment group of the temple of the Dioscuri at Naples, which was destroyed by an earthquake in 1688, was discussed by A. Trendelenburg at the May (1910) meeting of the Berlin Archaeological Society. It is known through two written descriptions and a drawing made in 1540, which gives the inscription, a dedication to the Dioscuri and the City, with great accuracy. The figures are: A Triton at either end; next to these, personifications of Campania and the Voltumnus; then Apollo and Artemis, who were worshipped at Naples; then the Twin Gods, one of whom is missing; and in the centre, presumably, a personification of the City. To the last point Wilamowitz-Moellendorf objected that the dative *πόλει* is not to be taken in a religious sense, but as the receiver of a gift. (*Arch. Anz.* 1911, cols. 54–57.)

The Palace of Diocletian at Spalato.—In *Mel. Arch. Hist.* XXXI, 1911, pp. 247–275, a preliminary account of the present condition of the ruins of the palace of Diocletian at Spalato, and of its general arrangement, is given by E. HÉBRARD and J. ZEILLER, who have been engaged in this work for some years under the commission of the Académie des Inscriptions et Belles Lettres. Their complete report, including also a restoration of the palace, a study of the artistic influences which can be observed in its construction and which proceeded from it, and the history of the monument, is to be published during the current year in Paris.

SCULPTURE

Sculptures in Bologna.—In *R. Arch.* XVIII, 1911, pp. 127–173 (24 figs.), PERICLE DUCATI, after giving a list of previously known ancient sculptures in Bologna, describes, illustrates, and discusses twenty-one hitherto unpublished works: (1) Broken head of a youth, of gray-brown basalt. A rather mechanical copy of a work of a time somewhat before 450 B.C. Probably Apollo. (2) Bearded herm, of marble. The inscription is published by Kaibel, *Inscr. gr. Siciliae et Italiae*, No. 1201. It may be compared with the herm in the Lateran, that from Ephesus (now in Vienna) and the herm by Alcamenes, from Pergamon. (3) Torso of a youth, of a style somewhat later than that of Polyclitus, perhaps Attic, perhaps a more direct

continuation of Polyclitan tradition. It bears some resemblance to the right-hand (from the spectator's point of view) figure in the group from Ildefonso. (4) Torso of a youth, which is compared to the left-hand figure in the group from Ildefonso. Perhaps Apollo. (5) Torso of Aphrodite. Apparently the goddess was arranging her hair. (6) Torso of crouching Aphrodite, finely wrought. A variant of the type of the Aphrodite by Doidalsas. (7) Group of a young Satyr with the infant Dionysus on his shoulder. It resembles closely the replicas in Naples and in the Villa Albani. (8) Torso of a hero, perhaps one of the Dioscuri, derived from an original of the fifth century. It may be compared with the Diomedes in Munich. (9) Fragment (upper part of female figure in high relief) from an Attic grave-stele of the end of the fifth century. (10) Votive relief to the Dioscuri, well composed and executed. Probably made early in the fourth century. (11) Fragment (Victory) of a "citharedic" relief. Before the winged Victory is an omphalos. (12) Fragment of a bas-relief of the time of Augustus. A sacrifice (or procession) was represented. Only a ram's head is well preserved. (13) Funerary urn decorated with ivy and, at the corners, with rams' heads (*C.I.L.* VI, No. 13756; Altmann, *Die römischen Grabaltäre*, Fig. 99, p. 124). A fine example of work of the Claudian period. (14) Round urn of Hermippus (*C.I.L.* VI, No. 10088, Altmann; *l.c.* p. 133). Only half is preserved. Decorated with armor, two boars, two bulls, and a chariot. (15) Urn of Mussius Trophimus (*C.I.L.* VI, No. 22765; Altmann, *l.c.* p. 129, No. 118 and p. 271). Below the inscription, the drunken Silenus on an ass. (16) Roman portrait (Livia?). (17) Head of Lucius Verus. (18) Fragment of a male head detached from a relief of the time of the Antonines. (19) Head of a young man, of the time of the Severi, perhaps a portrait of Alexander Severus. (20) Portrait of a young woman of the time of the Severi. (21) Female portrait head of late imperial times. The coiffure of the first century A.D. is imitated.

Roman Remains in the Renaissance.—In *Röm. Mitt.* XXVI, 1911, pp. 288-328 (pl.; 17 figs.), P. G. HUEBNER presents the results of his studies of Roman antiques as known to the artists of the Renaissance, with special reference to the Jupiter of Versailles and other statues of the Villa Madama; to the drawings of van Heemskerck representing statues; to the placing of the Dioscuri of Monte Cavallo; and the pedagogue of the Niobe group. The plate reproduces a painting of van Heemskerck's at Haarlem, representing the excavation of the Jupiter of Versailles, with a Roman background of interest to every student of topography.

The Statue of an Athlete in the Capitoline Museum.—A statue of an athlete in the Capitoline Museum (unhappily restored by the addition of an ancient head of Augustus) has been newly examined by ADA MAVIGLIA, whose results appear in *B. Com. Rom.* XXXIX, 1911, pp. 137-157 (11 figs.). It had been pronounced by Petersen a replica of the Diadumenus of Polyclitus, but the writer, comparing it with the so-called Diadumenus of Madrid, and after careful study of the methods of throwing the javelin, claims the discovery of a new motive in sculpture,—that of the athlete in the act of winding up the thong (*amentum*), preparatory to throwing his javelin.

A Roman Portrait Bust.—In *Jh. Oest. Arch.* I. XIV, 1911, 121-129 (2 pls.; 6 figs.), H. SITTE publishes a small Roman portrait bust (Fig. 6)

found at Wels (the Roman Ovilava), Austria, and now in the museum of that town. It is of bronze with eyes of silver set in, and represents a curly-haired, smooth-faced man who has not been identified. It dates from the first half of the second century A.D. and is an interesting example of Roman portraiture.

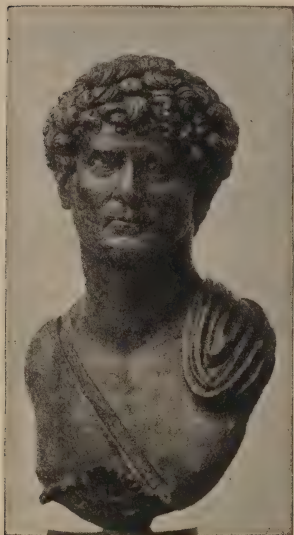


FIGURE 6.—ROMAN PORTRAIT
BUST.

A Roman Portrait Head.—A marble head, the portrait of some young member of the Julian-Claudian family, found some sixty years ago at Bosham in Sussex, England, is published by E. HAVERFIELD in *Arch. Anz.* 1911, cols. 306-308. It is not certainly known whether this is a relic of Roman times in Britain, possibly coming from the neighboring Chichester, which was the home of the petty king Cogidubnus, or was brought from Italy in modern times and temporarily lost.

A Bronze Statue.—The reconstruction of a bronze statue, apparently of Valens or Valentinian I, found in fragments in the bed of the Tiber near Ponte Sisto, is attempted by G. DEHN in *Röm. Mitt.* XXVI, 1911, pp. 238-259 (2 pls.; 12 figs.).

Roman Reliefs in the Louvre.—In *B. Soc. Ant. Fr.* 1910, pp. 373-377, E. MICHON calls attention to two pieces of a frieze ornamented with masks and palmettes which has been in the Louvre for about one hundred

years. He compares them with twelve fragments of a similar frieze found by Boni in 1900 in the sanctuary of Juturna in Rome and with nine other fragments found in other parts of Rome and suggests that they may have belonged to the same building.

Reliefs of the Arch of Constantine.—The medallions on the Arch of Constantine are the subject of fresh study by MARGARETE BIEBER in *Röm. Mitt.* XXVI, 1911, pp. 214-237 (2 figs.; pl.). She is convinced that the medallions were produced in the time of Hadrian and in his honor; that the heads in the sacrificial scenes (Hercules and Apollo) were worked over into the features of Philippus Arabs for a monument commemorating the millennium of the city, in 248 A.D.; that Constantine, who interpolated his own features into all the other reliefs, spared those of Philippus alone, because as a Christian he did not wish to appear in pagan sacrifices. In *Berl. Phil. W.* XXXI, 1911, cols. 1239 f., J. SIEVEKING states that after a fresh examination of the heads in the medallions on the arch of Constantine from the casts at St. Germain, he is convinced that the only well-preserved head on the south side (No. 32) represents Constantine. He rejects Miss Bieber's identification of the two heads in the Apollo and Hercules sacrifice on the north side as portraits of Philippus Arabs.

Roman Reliefs in Belgrade.—Two reliefs in the museum of Belgrade are interpreted by M. ROSTOWZEW in *Röm. Mitt.* XXVI, 1911, pp. 267-283 (2 figs.). One represents a Roman *speculator* on a journey in a four-wheeled

carriage; the other a Roman banker or merchant in the act of looking over his accounts.

Roman Gravestones in Dacia. — In *Dolgozatok az Erdelyi Nemzeti Múzeum*, II, 1911, pp. 275–287 (9 figs.), A. SCHÖBER publishes nine Roman gravestones from Dacia, on which two or more busts are carved within a circle or wreath. This type of monument is also found in Pannonia.

VASES AND PAINTING

An Ossuary from Este. — In *B. Pal. It.* XXXVII, 1911, pp. 72–103, G. GHIRARDINI discusses an ossuary found at Este. It is a vase 28 cm. high and 30 cm. in diameter, and has a black ground adorned with red figures of men and animals. The latter, eleven in number, are of four types, one of which represents a stag. The date is probably not earlier than the second half of the fifth century, and Ghirardini believes that the decoration shows the attempt of a local artist to treat figures borrowed from the native art (as shown on *situlae* which he describes) in a manner imitating imported Greek red-figured vases.

A Vase in the Castellani Collection. — A vase with figures of Minerva, Hercules, and Hebe, in the Castellani collection of the Conservatori Museum is considered in detail by N. PUTORTI in *B. Com. Rom.* XXXIX, 1911, pp. 68–79 (2 figs.). It is Etruscan, or Faliscan.

South Italian Vases. — To the history of the ceramic art in the south of Italy V. MACCHIORO makes a valuable contribution in *Röm. Mitt.* XXVI, 1911, pp. 187–213, based largely upon studies in the archives of the Naples museum, to determine the provenance of the vases.

Architectural Landscape in Roman Painting. — An elaborate treatise on architectural landscape in Hellenistic-Roman decorative painting by M. ROSTOWZEW appears in *Röm. Mitt.* XXVI, 1911, pp. 1–185 (11 pls.; 67 figs.). A large part of the work is devoted to architectural landscape in the second, third, and fourth Pompeian styles respectively; the remainder to the types of buildings found in the Roman and Pompeian landscapes, as compared with the products of Hellenistic and Greek art, in reliefs, ceramics, etc. The literary sources for Roman landscape are fully treated, while an excursus considers landscape in decorative painting, reliefs, and mosaic, outside of Pompeii and after its destruction.

The Fresco Paintings of the Villa Gargiulo at Pompeii. — In *Berl. Phil. W.* XXXI, 1911, col. 727, O. ROSSBACH defends his interpretation of No. XVI of the fresco paintings of the Villa Gargiulo, reasserting that the object held by the kneeling woman is a tunny. P. HERMANN, discussing the same fresco (*ibid.* XXXI, 1911, cols. 757 ff.), sides with Sieveking and holds there can be no doubt but that the object is a basket containing the covered phallos. The kneeling woman is on the point of uncovering the contents of the basket; the other turns away in horror and lifts a lash or switch to strike her. In other words, this is not a “flagellation scene.”

INSCRIPTIONS

A Fragment of a Lex Horreorum. — In *Rend. Acc. Lincei*, XX, 1911, pp. 79–83, A. VOGLIANO, comparing the *lex horreorum* published by Gatti (*B. Com. Rom.* 1885, pp. 119 ff.) and a similar inscription published by

Marini (*Inscriptioni doliiari*, p. 114), partially completes the fragment reported by Pasqui in *Not. Scav.* 1910, p. 90. He also restores the fragmentary Greek grave inscription found at Ostia (*Not. Scav.* 1910, p. 16).

The Fasti of the Augurs. — A new fragment of the Fasti of the augurs, found apparently in the excavation of the Basilica Aemilia, some years ago, and then lost, has been recovered and placed in the collection at S. Francesca Romana. It is of early imperial date, but relates to the coöptation of certain augurs of 462, 439, and 390 B.C. (G. GATTI, *B. Com. Rom.* XXXIX, 1911, pp. 180-183.)

The Gamala Inscriptions at Ostia. — In *Mél. Arch. Hist.* XXXI, 1911, pp. 143-230, J. CARCOPINO discusses exhaustively the two Gamala inscriptions at Ostia (*C.I.L.* XIV, 375, 376). He maintains the authenticity of the latter part of No. 376, and supports Homolle's theory that these inscriptions do not refer to one man, P. Lucilius Gamala, but to two of that name, the elder of whom held office in Ostia from the latter part of the reign of Augustus to the first years of Claudius, and the younger died in 179 A.D. One inscription (375) was engraved in 44 A.D., and the other (376) between 166 and 180. These conclusions find additional support in recent topographical discoveries at Ostia.

A Roman Military Diploma. — In *Jh. Oest. Arch. I.* XIV, 1911, pp. 130-134 (2 figs.), V. DOBRUSKÝ publishes a bronze military diploma found at Prodanovci, Bulgaria, and now in the museum at Sofia. It is the first leaf of a diptych, engraved on both sides, and almost perfectly preserved. It bears the name of the emperor, Maximinus Thrax, and dates from the year 237 A.D.

Funeral Inscriptions. — In *Atene e Roma*, XIV, 1911, cols. 214-224, A. DE-MARCHI collects under the title 'Cronaca e facezia nelle iscrizioni sepolcrali latine' a number of funeral inscriptions from *C.I.L.* which record violent deaths in the manner of modern newspaper paragraphs. He also adds a number of epitaphs which, for one reason or another, appear absurd.

Inscriptions with the Name of Domitian. — In *Rend. Acc. Lincei*, XX, 1911, pp. 197-204, G. CORRADI emends two Greek inscriptions which mention Domitian, *C.I.G.* III, 5043 and 4333.

Sepulchral Inscriptions in Baltimore. — In *The American Journal of Philology*, XXXII, 1911, pp. 166-187, H. L. WILSON publishes thirty-four Latin sepulchral inscriptions, for the most part found in Rome, now at Johns Hopkins University, Baltimore.

Epigraphic Bulletin. — In their 'Review of Epigraphic Publications relative to Roman Antiquity' for January-June, 1911, R. CAGNAT and M. BESNIER give the text of eighty-eight inscriptions and notes on epigraphic publications. Twenty inscriptions are in Greek, one in Greek and Latin, the others in Latin.

COINS

Unpublished Roman Coins. — Sixty-seven coins of the empire, from Nero to Julian, belonging to the collection of Joachim Scheyer of Milan, are now published by F. GNECCHI (*R. Ital. Num.* XXIV, 1911, pp. 151-164; pl.). L. PAULON publishes (*ibid.* pp. 185-198; pl.) fifty-eight coins of the republic and empire from his own collection which are either thus far entirely unpublished or show variations from already known types.

Roman Coins with Names of the Moneyers. — The series of articles by L. LAFFRANCHI on various styles in Roman coinage is continued by one (*R. Ital. Num.* XXIV, 1911, pp. 319–327; pl.) on the last Roman coins (*quadrantes*) that contain the names of the *triumviri monetales*. These coins the writer assigns to the reigns of Tiberius, Gaius, and Claudius, and judges that they show the waning influence of the senate over coinage.

Two Hoards of Republican Bronzes. — Two recently discovered hoards of bronze coins of the Roman republic have probably contributed more than any other similar finds toward the settlement of many vexed questions of date, successive weight reductions, and the like, that have long engaged the attention of numismatists. One of these hoards was discovered in the neighborhood of Ostia in August, 1908, and 176 pieces of it were described by F. Gneecchi (*R. Ital. Num.* 1909, pp. 11 ff.). The complete hoard numbered 232 pieces, and was remarkable among other things for the inclusion of no less than three dupondii of the uncial system, all restruck on other pieces. The number of known uncial dupondii is thus increased to five. The second hoard was found at Avola (Sicily), and described by P. Orsi (*Not. Scav.* 1909, pp. 62 ff.). LORENZINA CESANO now examines both hoards in detail, with various analytic tables and classifications, and propounds a considerable number of highly important conclusions therefrom. The five known uncial dupondii are pictured in a plate. (*R. Ital. Num.* XXIV, 1911, pp. 275–317; pl.)

Dated Coins of Caesar and Antony. — The inscription $\perp \parallel$ on an aureus of Julius Caesar must be interpreted as commemorating the fact that fifty-two years had elapsed between 102 B.C., when Caesar's kinsman, Marius, repulsed the Teutons, and 49 B.C. (the date of the coin), when Caesar had just completed the subjugation of Gaul. The inscriptions XL and XLI on coins of Antony struck at Lugdunum mark an attempt, for which abundant precedent can be found in post-Alexandrine Greece and even on a coin of Nemausus, to chronicle the establishment of the town by reference to the years of life of him, its official founder and *patronus*. (*M. CASPARI, Num. Chron.* 1911, pp. 101–108; 2 figs.)

Coinage of the Second Triumvirate. — The history of the triumvirate of Antony, Lepidus, and Octavian from 44 to 31 B.C., is reviewed by H. A. GRUEBER, with reference to its illustration from coinage, in *Num. Chron.* 1911, pp. 109–152 (2 pls.).

A Bronze of Q. Oppius. — In *J. Int. Arch. Num.* XIII, 1911, pp. 25–30, W. v. VOIGT discusses a Roman bronze coin which has on the obverse Venus with a diadem facing to the right, and behind her a half moon; and on the reverse, Victory holding a palm branch and basket moving to the left, but with head turned to the right, and inscribed Q. OPPIVS PR. It was coined outside of Rome about 36 or 31 B.C.

A Silver Medallion of Geta. — In *Ber. Kunsts.* XXXII, 1911, cols. 183–185 (2 figs.), K. REGLING publishes a silver medallion from the Weber sale and now in the Berlin museum. It has on the obverse the head of Geta with the legend P. *Septimius Geta* *Caes.*, and on the reverse three goddesses with scales and horn of plenty with the words *aequitati publicae*. It was coined shortly before 209 A.D. and is a unique piece.

Bordered Medallion of Decius and Etruscilla. — A bordered medallion with the head of Decius on one side and of Etruscilla alone on the other, a type not before known, was found at Rome toward the end of the

year 1910, and came into the possession of F. GNECCHI, who publishes it in *R. Ital. Num.* XXIV, 1911, pp. 147-148 (fig.).

The Coins of Constantine. — In the second volume of his elaborate study of the coins of Constantine, JULES MAURICE discusses, by way of introduction, the religious history of his reign, the solar dynasty of the second Flavians, the Christian empire of Constantine, a new theory on Christian signs on coins, and deified abstractions on the reverses. He then describes in succession the coins from the mints of London, Lyons, Arles, Tarragona, Siscia, Sirmium, Serdica, Thessalonica, Constantinople, and Heraclaea in Thrace. A third volume dealing with the eastern mints will complete the work. [*Numismatique Constantinienne.* Par JULES MAURICE. Paris, 1911, Leroux. Vol. II, cxxxvi, 612 pp.; 17 pls.]

Monetary System of Etruria. — The first part of a treatise by a Hungarian, E. KOVÁCS, on the monetary system of Etruria, appears in a French translation in *R. Ital. Num.* XXIV, 1911, pp. 367-403, and other parts will follow (see *A.J.A.* XV, p. 569).

Aquileia-Chrysopolis. — W. KUBITSCHKE is yet unconvinced by the discovery of a third lead tessera with the Chrysopolis inscription that the name is not due to falsifications by Cigoi. (*Num. Z.* 1910, pp. 44-47, pl.; cf. *ibid.* 1909, pp. 38 ff.)

Hail to Hadrian. — W. KUBITSCHKE would combine and interpret the abbreviated inscriptions on the two sides of a lead tessera published in the *Catalogue des plombs de la bibliothèque nationale* by Rostowzew and Prou (Paris, 1900; p. 43), as *Augusto Hadriano salus felix Sabina*, for the form of which greeting he quotes abundant precedent. (*Num. Z.* 1911, pp. 47-49.)

Type of Roma on Colonial Coinages. — The imitation of the type of Roma head on denarii of the republican era by certain cities which owned Roman origin, is discussed by G. PANSA in *R. Ital. Num.* XXIV, 1911, pp. 199-208 (5 figs.).

Fabrication of Medals of Two Metals. — In *R. Ital. Num.* XXIV, 1911, pp. 165-184, R. MOWAT discusses the use of medallions in general, and the mode of their fabrication, especially of those of two metals.

The Temple of Jupiter Vltor. — A medal of Alexander Severus, representing a temple in a peribolus, approached by a broad staircase and propylaea, is used by P. BIGOT (*B. Com. Rom.* XXXIX, 1911, pp. 80-85; 3 figs.), to combat Huelsen's site for the Temple of Apollo. Bigot identifies the temple on the medal with that of Jupiter Vltor, and places it in the Vigna Barberini, close to S. Sebastiano.

Bordered Medallion with Apparatus for Suspension. — The theory that large medallions of bronze were used for the adornment of military standards has lacked support by the discovery of any that showed traces of arrangements for such attachment. The medallion in the possession of E. J. Seltman, believed by him to show such signs, does not appeal to all others (cf. R. Mowat in *R. Ital. Num.* XXIV, 1911, p. 167 and note). F. GNECCHI now publishes a bordered medallion of Commodus, to which is attached a chain of three figure-of-eight links, ending in a fourth larger and of the character of a clasp. Gneecchi is sure that it cannot have been thus hung on a military standard, but is unable further to define its purpose. (*R. Ital. Num.* XXIV, 1911, pp. 129-130; fig.)

Medallion attached to a Roman Standard.—C. O. SELTMAN takes up the cudgels in defence of the attribution to a Roman standard of the medallion of Nero owned by E. J. Seltman, on which doubt was again cast by R. Mowat in an article in *R. Ital. Num.* XXIV, 1911, pp. 165 ff. (see above). M. Seltman promises a fuller article soon, and adds a few remarks against M. Mowat's theory that the outer ring of metal in the case of bordered medallions was to strengthen the flan against the blows of the hammer. (*R. Ital. Num.* XXIV, 1911, pp. 407-409.)

GENERAL AND MISCELLANEOUS

Early Inhabitants of Capri.—In *B. Pal. It.* XXXVII, 1911, pp. 57-62, two Italian geologists, BASSANI and GALDIERI, after a study of the strata in excavations near the Certosa at Capri, discuss the age of instruments found there, and suggest the probability that the island was inhabited as early as the end of the glacial period, or a little later, by a race which already knew the use of fire.

Eneolithic Civilization in Umbria.—The contents of a tomb at Cerreta in Umbria, described by G. A. COLINI in *B. Pal. It.* XXXVII, 1911, 63-71, bring additional proofs of the existence of an eneolithic civilization in Umbria.

Italo-Etruscan Antiquities from Nemi.—A terra-cotta *tempietto* from Nemi and some other unpublished monuments of the Italo-Etruscan period are exhaustively treated by G. E. RIZZO in *B. Com. Rom.* XXXVIII, 1910, pp. 281-321 (8 figs.; 3 pls.); and XXXIX, 1911, pp. 23-61 (13 figs.); with appendix on pertinent discoveries by R. MENGARELLI (pp. 62-67).

The Roman Fasti.—In *Rend. Acc. Lincei*, XX, 1911, pp. 315-338, T. GEORGI controverts G. Costa's conclusion that the Roman Fasti are derived from one source, and criticises most sharply his attempts to restore them to their original form.

The Lex Latina of Heraclea.—In *Rend. Acc. Lincei*, XX, 1911, pp. 157-168, E. PAIS, in his third article on the nature and date of the *Lex Latina* of Heraclea refutes G. De Sanctis' contention (*Atti della R. Accademia delle Scienze di Torino*, Vol. XLV. Adunanza 26 dic. 1909, p. 13 dell'estratto) that the law is not a *lex satūra*, but a code borrowed from Rome by the Heracleotes. The date 45 B.C. cannot be inferred from Cicero *ad Fam.* VI, 18. That Caesar had no need to have recourse to *leges saturae* as being all-powerful, he denies. The incoherence of the law, which seems to De Sanctis un-Caesarean, may be due to the conservatism of legal terminology; and, furthermore, Caesar is not to be held accountable for the external form of the law. These laws are not an excerpt or digest of Roman laws chosen by Heraclea, for even if she had had the right to choose, the decadent little city would hardly have chosen Rome's aedile laws or those touching the *rex sacrorum*, or Roman triumphs. De Sanctis thinks the collection due to the Hellenic city's love of codifying laws; but Heraclea must have lost by this time its Greek character almost completely.

The Horrea Germaniciana.—The remains of buildings on the southwest side of the Temple of Augustus, which had been conjecturally identified with the *Horrea Germaniciana* of the *Notitia* (cp. Platner, 2d ed. p. 165), are now announced as the *Horrea Germaniciana et Agrippiana* by G. S. GRAZIOSI. (*B. Com. Rom.* XXXIX, 1911, pp. 158-172; fig.)

The Corona Nuptialis. — In *Mél. Arch. Hist.* XXXI, 1911, pp. 309-319, J. SCHRIJNEN attempts to show that during the third century A.D. the use of the ancient Roman *corona nuptialis* was revived at Christian weddings, and that evidence in support of this view can be found in certain representations on vases (*fondi d'oro*) of the third and fourth centuries.

Mediaeval Views of Rome. — Some hitherto unknown perspective views of Rome by artists of the Quattrocento are published by CH. HUELSEN in *B. Com. Rom.* XXXIX, 1911, pp. 3-22 (fig.; 5 pls., one in colors). The paintings are from the fronts of coffers (*cassoni*) in the Jarves collection at New Haven, at Hanover, or at Turin.

Roman Foot Rules. — In *B. Soc. Ant. Fr.* 1910, pp. 343-347, A. HÉRON DE VILLEFOSSE publishes a list of Roman foot rules of bronze found in different parts of France. One folds up into three sections, the others fold in the middle. Other specimens have been found in Italy, Switzerland, and elsewhere. An ivory rule at Brugg has marks upon it dividing it into twelve equal parts on the upper side, and into four parts on the lower. The bronze rules are usually marked off into sixteen equal parts.

The Topography of Naples. — In *Boll. Arte*, V, 1911, pp. 135-144 (fig.), A. SORRENTINO discusses the evidence for the topography of ancient Naples and concludes that the archaeological discoveries confirm the statement of Livy that Palaeopolis and Neapolis were distinct towns near each other; and that the former was located at S. Giovanni Maggiore.

The City Walls of Ostia. — In *Berl. Phil. W.* XXXI, 1911, cols. 1390 f., A. W. VAN BUREN corrects the report of the excavations in Ostia given in *Not. Scav.* 1910, p. 134, in one respect: "The wall as originally constructed had no opus quadratum facing; but consisted, in its plain stretches, simply of the opus incertum at present existing, which, however, has this structural peculiarity, that it was laid not with a perfectly plain vertical exterior, but with slight horizontal rebates at intervals of about .5 meter, the only projecting corner which is now visible being faced with small rectangular blocks."

Late Roman and Byzantine Guilds. — In his *Spättrömische und byzantinische Zünfte* (Leipzig, 1911, Dieterich. x, 180 pp. *Klio*, Beiheft IX) A. SRÖCKLE publishes a careful study of late Roman and Byzantine guilds as set forth in the *Edict of Leo the Wise*. He discusses the number and functions of the guilds, their organization, relation to the state, etc., and adds full indices.

The Burgarii. — In *B. Soc. Ant. Fr.* 1911, pp. 128-132, É. CHÉNON shows that, as J. Godefroy declared in 1736, the *burgarii*, that is, the inhabitants of the *burgi* or small forts erected to protect the Roman *limes*, were public slaves. They do not appear to have existed as a class after the fourth century A.D.

SPAIN

The Human Figure on Neolithic Monuments. — In *R. Ét. Anc.* XIII, 1911, pp. 437-452 (56 figs.), G. H. LUQUET discusses the representations of the human figure on Iberian neolithic monuments. He divides them into three classes according to their apparent date and thinks that they point to the cult of a fertility divinity.

An Inscription from Sasamón. — In *C. R. Acad. Insc.* 1911, pp. 402-406

(fig.), E. Albertini publishes a Latin inscription found at Sasamón (Burgos) in 1905, upon which the adjective *Suestatiensis* occurs. The correct spelling of the name of the town Suestatium, which was about one hundred miles from Sasamón, was not previously known.

Decipherment of Inscriptions in Spain.— In *Exp. Times*, XXII, 1911, p. 520, R. M. LITHGOW claims that Major Santos Ferreira has discovered four separate alphabets, whereby he has been enabled to read on old coins, etc., inscriptions which have hitherto been supposed to be in an illegible Celtiberian language. These coins give as a rule the name of the colony in Latin or Greek, but have besides another inscription in this unknown speech. His discoveries disclose this to be Hebrew, or some language allied to it.

The Iron Javelin of the Iberians.— In *R. Ét. Anc.* XIII, 1911, pp. 453-456 (2 figs.), J. DÉCHELETTE points out that an iron javelin found in 1878 at Avezac-Prat, in Hautes-Pyrénées, is the weapon called by Diodorus (V, 34) *σαίνιον ὀλοσίδηρον*. It is 1.82 m. long, barbed, and entirely of iron. It is an Iberian invention.

FRANCE

Names on the Arch at Orange.— In *B. Soc. Ant. Fr.* 1910, pp. 384-390 (fig.), J. DÉCHELETTE argues that the inscriptions on the Gallic shields on the Roman arch at Orange are the names of makers of shields, not of Gallic chiefs. He compares the knife scabbards made at Baden (Aquae Helveticae) inscribed with the name Gemellianus.

Sigilla Ware at La Madeleine.— In *Röm.-Germ. Kb.* IV, 1911, pp. 90-93, DELMANN discusses the type of sigilla ware made at La Madeleine during the reign of Trajan.

HOLLAND

Frisian Pottery and Sigilla Ware.— In *Röm.-Germ. Kb.* IV, 1911, pp. 60-64, P. C. J. A. BOELES discusses the pottery and sigilla ware found in the so-called *Terpen* (mounds) in Friesland and Groningen (Holland). The native Frisian ware he dates from the first century A.D. and later. The sigilla ware (more than 200 fragments with some perfect specimens are now placed in the local museum) represents different types, throwing an interesting light on the early history of Roman occupation and Roman trade.

SWITZERLAND

Funerary Furniture from the Dolmens of Les Cévennes.— In *R. Ét. Anc.* XIII, 1911, pp. 430-436 (pl.; 3 figs.), A. CARTIER calls attention to various objects excavated near dolmens in Les Cévennes and now in the museum at Geneva. They consist of spear and arrow heads of stone, bronze daggers, pins, rings, etc.

GERMANY

The Site of Aliso.— LUDWIG SCHMIDT discusses the site of Aliso; rejecting both Oberaden and Haltern, he places it further up the Lippe, and thinks it probable that Aliso was founded on the site of Tiberius' winter quarters (campaign of 4-5 A.D.) near the modern Elsen. (*Röm.-Germ. Kb.* IV, 1911, pp. 93-95.)

Marble Coverings on Roman Walls at Trèves. — In *Röm.-Germ. Kb.* IV, 1911, pp. 76 f., E. KRÜGER discusses the method of attaching marble coverings to the walls of Roman buildings, prevalent in Trèves. The marble slabs were fastened to the concrete by long iron clamps, one end bent into the shape of hooks. Mortar and not lead is the only material found to have been used to hold them in place. The museum at Trèves possesses a large number of these clamps.

AUSTRIA-HUNGARY

A Silver Vase from Arras in Vienna. — In the *Codex Pighianus* of the Royal Library of Berlin, there are, besides copies of inscriptions, drawings of ancient monuments belonging to Cardinal de Granvelle. Among these appears a silver vase adorned with two bands of decoration, the upper representing masks and various animals, the lower, sea monsters. In *M. Soc. Ant. Fr.* LXX, 1910, pp. 135-210 (2 figs.), É. MICHON shows that this vase, found at Arras in the sixteenth century, still exists in the museum at Vienna. A bust of Jupiter and a head of Juno belonging to the same collection are now in the Louvre.

Archaeology in Croatia. — In *Vjesnik*, Nove Serije Sveska, XI, 1910-11, the following articles, written in the Croatian language, are of archaeological interest: pp. 23-39 (5 figs.), J. BRUNŠMID discusses a Roman military diploma from Sisak; pp. 61-144 (266 figs.), the same writer continues his publication of the monuments in stone in the Croatian National Museum at Agram (Zagreb); pp. 145-240 (31 figs.), V. HOFFILLER discusses the equipment of the Roman soldier in early imperial times; pp. 241-277 (fig.), J. BRUNŠMID examines certain hoards of coins found in Croatia and Slavonia.

Unpublished Dacian Coins. — In *Dolgozatok az Erdelyi Nemzeti Múzeum*, II, 1911, pp. 288-300 (6 figs.), I. KOVÁCS describes six unpublished Dacian coins in the National Museum at Kolozsvár, Hungary. He also publishes an Istrian coin of Alexander Severus with a figure of Tyche on the reverse.

GREAT BRITAIN

Palaeolithic Remains at Northfleet. — In *Archaeologia*, LXII, 1911, pp. 515-532 (3 pls.; 3 figs.), R. A. SMITH discusses the palaeolithic implements found in great numbers in recent years at Northfleet, Kent.

The Palaeolithic Periods at Knowle Farm Pit. — In *Proc. Soc. Ant.* XXIII, 1911, pp. 453-461 (2 pls.), H. G. O. KENDALL discusses the palaeolithic implements which have been found in great quantities at Knowle Farm Pit. They correspond to the worked flints of Chelles, St. Acheul, Moustier, and Madeleine. He argues that the site was inhabited continuously for a very long time; and that the gloss on the flints was produced by pressure and rubbing, fine sand and iron.

Pleistocene Man in Jersey. — In *Archaeologia*, LXII, 1911, pp. 449-480 (6 pls.; 6 figs.), R. R. MARETT describes the contents of two caves excavated on the island of Jersey. One of them and probably both date from pleistocene times. See also *Proc. Soc. Ant.* XXIII, 1911, pp. 363-366.

The Cave-Dwelling at Wookey-Hole. — In *Archaeologia*, LXII, 1911, pp. 565-592 (2 pls.; 13 figs.), H. E. BALCH and R. D. R. TROUP describe the discoveries in the late Celtic and Romano-British cave-dwelling at Wookey-

Hole, near Wells, Somerset. These include weapons and tools of iron, bronze brooches, pins, needles, spindle whorls, querns, pottery, one lamp, human remains, Roman coins, etc. See also *Proc. Soc. Ant.* XXIII, 1911, pp. 403-406.

Lake-Dwellings in Holderness.—In *Archaeologia*, LXII, 1911, pp. 593-610 (2 pls.; 12 figs.), R. A. SMITH discusses the lake-dwellings discovered in Holderness, Yorkshire, in 1880-1881.

A Prehistoric Route in Yorkshire.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 309-325 (8 maps; 7 figs.), E. KITSON CLARK traces a prehistoric route across Yorkshire from Fridaythorpe by Stamford Bridge, York, Tadcaster to Ilkley on the basis of earthworks, barrows, and finds of stone implements.

A Romano-Celtic Brooch.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 406-407 (fig.), E. T. LEEDS publishes a fibula of rare type found at Hook Norton, Oxfordshire. The best known example of the type is from Aesica, described by A. J. EVANS (*Archaeologia*, LV, p. 179). It dates from about 200 A.D.

AFRICA

The Commercial Harbor and the Sea Wall at Carthage.—In *R. Arch.* XVIII, 1911, pp. 229-255 (4 plans), Dr. CARTON discusses remains of sea walls at Carthage. He finds that the commercial harbor of the Punic city occupied the site of the Roman *thermae* of Antoninus and the ground farther inland. This was filled with sand by the waves after the first destruction of Carthage. The harbor for ships of war was at the southern extremity of the city and was connected with the commercial harbor by a great wall in the sea, strongly fortified. The wall was prolonged beyond the Cothon harbor along the northern side of the canal that connected the gulf of Tunis with the lake and then along the lake until it joined the wall that came from the bay of Utica.

Surveying in Roman Africa.—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 79-103, J. TOUTAIN discusses surveying in Roman Africa in the light of documents found in 1905, and shows that the criticisms of his work by Fr. Barthel (in *W. kl. Phil.* November 15, 1909) are untenable.

The Name Agadir.—In *B. Soc. Ant. Fr.* 1910, pp. 390-392, R. MOWAT calls attention to the fact that Agadir was the Phoenician name of Cadiz, as is shown by coins, and argues that the Moroccan town was a Phoenician foundation.

EARLY CHRISTIAN, BYZANTINE, AND MEDIAEVAL ART

GENERAL AND MISCELLANEOUS

Prudentius' *Dittochaeon* and Palestine.—In *Byz. Zeit.* XX, 1911, pp. 177-196, A. BAUMSTARK argues that the backgrounds indicated in the pictures described in Prudentius' *Dittochaeon* correspond so closely with the details of Palestinian localities as described in the pilgrims' itineraries that the poet must have had in mind a series of pictures done by or imitated from an early Christian artist of the school of Palestine. Such a series he believes may be found in the nave-mosaics of S. Apollinare Nuovo at Ravenna, in which the details of place-indication correspond closely to those in works of recognized Palestinian origin.

Oriental Prototypes for Early Western Art. — Sir MARTIN CONWAY publishes in *Burl. Mag.* XIX, 1911, pp. 338-344, an "approximation" of the Gundestrup silver caldron in the Museum of Norse Antiquities at Copenhagen with certain Sassanid silver plates which indicates an Oriental origin for the decoration of the western monument. The same relation may be seen by comparing the Gothic gold and garnet ornaments from Varna in the Berlin museum with the ear-rings represented in the sculptures of the Bharhut Tope.

The Relief of Porphyrios. — In *R. Arch.* XVIII, 1911, pp. 77-85 (5 figs.), JEAN EBERSOLT discusses the monument of Porphyrios, which stands in the atrium of the church of St. Irene, at Constantinople. It is the monument of a charioteer of the end of the fifth century. On one side Porphyrios stands holding a palm and a crown, and beside him are two children holding his helmet and his whip. On the other three sides Porphyrios appears in his four-horse chariot. In a lower register are, on two sides, spectators in the hippodrome, on the west side two grooms and eight horses. On this side two winged victories hold crowns over the charioteer's head. The sculpture is not refined, but it still exhibits the vigor and something of the taste of earlier, classic art.

Byzantine Art and Archaeology. — In his *Byzantine Art and Archaeology* O. M. DALTON of the British Museum has published an important work for the study of the art and archaeology of Byzantine times. After a discussion of the general characteristics of his subject and its geographical extent he takes up in turn sculpture, carvings in ivory, painting, mosaics, illuminated manuscripts, enamels, goldsmith work and jewelry, silver plate, textiles and embroidery, pottery and glass, metal work, weights, coins, seals, engraved gems, iconography and ornament. The book is abundantly illustrated. [*Byzantine Art and Archaeology.* By O. M. DALTON. Oxford, 1911, Clarendon Press. 727 pp.; 427 figs. 8vo. £1.18.]

A Byzantine Bouloterion. — In *C. R. Acad. Insc.* 1911, pp. 411-417 (2 figs.), G. SCHLUMBERGER publishes a Byzantine *bouloterion* or instrument for stamping lead seals recently found at Brussa, Asia Minor. In form it is like a pair of pincers with a heavy cylinder on each of the jaws. The designs were cut on the inner ends of these cylinders. The lead flan was placed between them and a heavy blow struck with a hammer. This stamp has on one side a figure of St. Theodore and the inscription $\delta \text{ } \alpha \gamma \iota \omega \varsigma \text{ } \Theta \epsilon \acute{o} \delta \omega \rho \omicron \varsigma$, and on the other $\text{Κ} \omicron \sigma \tau \iota \varsigma (?) \text{ } \sigma \epsilon \beta \alpha \sigma \tau \acute{o} \varsigma \text{ } \tau \acute{\alpha} \varsigma \text{ } \gamma \rho \alpha \phi \acute{\alpha} \varsigma \text{ } \sigma \phi \acute{\iota} \gamma \kappa \tau \omicron \varsigma$ (for $\sigma \phi \acute{\iota} \gamma \kappa \tau \omega \varsigma$) $\delta \acute{\epsilon} \omega \text{ } \omicron \upsilon \rho \alpha \nu \acute{\iota} \omicron \nu \text{ } \mu \acute{\alpha} \rho \tau \upsilon \rho \omicron \varsigma \text{ } \acute{\epsilon} \nu \text{ } \pi \alpha \rho \omicron \nu \omicron \sigma \iota \acute{\alpha}$. It seems to date from the twelfth century. No other such specimen is known. The hammer which was used with it was also found.

Byzantine Lead Seals. — In *J. Int. Arch. Num.* XIII, 1911, pp. 1-24, N. A. BEES discusses twenty-nine Byzantine lead seals. *Ibid.* pp. 31-32, K. M. KONSTANTOPOULOS shows that the word read ΑΒΛΗΤΗΘ by Schlumberger (*Sigillographie de l'Empire Byzantine*, pp. 739 f.) on a Byzantine seal really reads $\text{ΑΒΔΗΤΗΚ}[8]$. The $\text{κουμμερκιάριος Θεσσαλονίκης}$ is elsewhere called $\alpha \beta \nu \delta \iota \kappa \acute{o} \varsigma$ or $\alpha \beta \nu \delta \iota \tau \iota \kappa \acute{o} \varsigma$.

Trade Routes and the Art of Germany. — B. HAENDCKE discusses the relation of trade routes in European culture in a suggestive article in *Rep. f. K.* XXXIV, 1911, pp. 337-391. He points out that a relation can be seen even in late Carolingian times between the roads to Italy and the spread of

Italian culture in the North, and the extension of the Cistercian order is a striking example of the effect of trade routes on the geography of civilization. The curious scattering of the works of Conrad Witz, the influence of Schwaben on the art of the Tyrol, the wanderings of a number of German artists, the location of Dürer's landscape sketches made on his Italian trip, etc., depend upon the direction and popularity of the commercial routes of the time. Even so late as the end of the sixteenth century, the influence of the Netherlands on German art was doubtless much heightened by the construction of the Holland road by Augustus of Saxony.

Lombard and Gothic Vaults.—In his monograph entitled *The Construction of Lombard and Gothic Vaults* (New Haven, 1911, Yale University Press; London, Henry Frowde. 29 pp.; 63 figs. Lex. 8vo), ARTHUR KINGSLEY PORTER shows that rib vaulting, which had been known to the Roman and Byzantine architects, though they had no great liking for it, was used by the mediaeval Lombards in order to do away with the need of great wooden centrings. The French architects adopted rib vaults from the Lombards because they also desired economy in the use of centring, and it is thus that Gothic architecture arose. Various details are treated more or less exhaustively in the monograph.

The Origins of Gothic Vaulting.—The older vaulting of the abbey-church of Lessay (Manche), which shows the use of ribs, must be dated about 1100. The same is true of the ribbed vaulting of the crossing in St. Trinité at Caen. The result of this dating must be to set the beginning of this system of building into the end of the eleventh century rather than in the middle of the twelfth. The early examples contradict the thesis of Bilson that the ribs at first followed the contour of the old groins and only later became half-circles and the determining factor of the vaulting to which the other arches conformed, for the later type is seen in both the buildings mentioned. Another fact to be noted in the beginnings of Gothic is that the introduction of ribs seems to have been due to the desire to find a safe means of vaulting the nave alone. This is demonstrated by the numerous examples of churches that have ribbed vaulted naves and aisles still covered with groined vaults. The great churches set the fashion and were followed in turn by the smaller foundations. (E. GALL, *Mh. f. Kunstw.* IV, 1911, pp. 309–323.)

Barbarian Helmets.—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 104–114 (3 figs.), Baron DE BAYE calls attention to the studies of M. Ebert and A. Götze on the early barbarian helmets of Europe in connection with his own work in that field.

Proof of Genuineness in Mediaeval Ivories.—R. KOECHLIN contributes to *B. Soc. Ant. Fr.* 1911, pp. 136–137, the result of investigations concerning two mediaeval ivories, a chalice with the figures of the Liberal Arts (c. 1300) in the treasure of Milan cathedral and the other a Gothic diptych in the Louvre. The first can be traced by catalogues and inventories back to 1440 and thus acquits of suspicion the group of ivories to which it belongs, among others the dated diptychs of the Treasure of Soissons. The other was published by Gori, although the fact has not been recognized, in the *Thesaurus veterum diptychorum* of 1739, a time when a forgery of this character would hardly have been perpetrated.

Mediaeval Rings.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 340–344

(4 figs.), O. M. DALTON discusses mediaeval rings with representations of the "Five Wounds of Our Lord." Such rings were at first devotional, but later commemorative. The cult of the Five Wounds became general in the fourteenth century. Prayers were addressed to them in the Books of Hours; and their representation in art followed.

Italian Armor from Chalcis.—In *Archaeologia*, LXII, 1911, pp. 381-390 (4 pls.; 10 figs.), C. FFOULKES discusses the mediaeval armor found in the castle at Chalcis in 1840, and now in the Ethnological Museum at Athens. It consists of sixty-three helmets, two cases of body armor, and a case of arrowheads and caltrops. It dates from the middle of the fourteenth to the middle of the fifteenth century. In general the armor is well preserved, and is important to the student of mediaeval arms, as no attempt at restoration has been made.

Mediaeval Personal Ornaments from Chalcis.—In *Archaeologia*, LXII, 1911, pp. 391-404 (pl.; 17 figs.), O. M. DALTON discusses the personal ornaments found at Chalcis about the time of the armor (see above) and now in the British and Ashmolean museums. They consist of gold and silver finger- and ear-rings, plaques and rosettes of silver gilt once attached to garments, buckles, tags, and hooks from girdles, and small globular or hemispherical buttons of great variety. They illustrate northern Italian art at the end of the fourteenth and beginning of the fifteenth century; but there are Oriental affinities due to local influence.

ITALY

Duccio di Buoninsegna.—A recent addition to the series of monographs on the history of art published by Hiersemann is C. H. WEIGELT's elaborate work on Duccio di Buoninsegna. In five chapters he discusses in turn "Franz von Assisi und die italienische Dugentomalerei," "Der Stil Duccios, seine Herkunft und Entwicklung," "Duccio als Erzähler," "Die Madonna Rucellai, ein Werk Duccios," and "Duccios erhaltene Gemälde chronologisch betrachtet"; and adds appendices on "Guido da Siena und seine Schule," "Ikonographisches zu Duccios Maesta," and "Verzeichnis der erhaltenen Gemälde Duccios und seiner Schule." Sixty-seven plates illustrating the frescoes complete the work. [*Duccio di Buoninsegna. Studien zur Geschichte der Frühsienesischen Tafelmalerei.* Von CURT H. WEIGELT. Leipzig, 1911, K. W. Hiersemann. 275 pp.; 67 pls. 4to. M. 36.]

Andrea da Bologna.—The record of the expenses for the construction of the chapel of S. Caterina in the lower church of S. Francesco at Assisi show that the paintings in it were done in 1368 by Andrea da Bologna. They represent scenes from the life of the saint and afford the most secure basis for reconstructing the *œuvre* of the artist. To him may be assigned, aside from the two signed pictures, the frescoes of the Oratory of S. Lorenzo in the same church of S. Francesco, and the altar-piece of the Coronation of the Virgin in the gallery at Fermo. A document of 1365 in the Bologna archives informs us that an "Andrea de' Bartoli" of Bologna was sent by Cardinal Androino to Pavia to paint in the palace of Galeazzo Visconti. It is likely that this artist is no other than the author of the Assisi frescoes, and that he also did the miniatures of the "Canzone della Virtù e delle scienze," in the Musée Condé at Chantilly, by Bartolomeo

De' Bartoli, probably a relative of his. This hypothesis is more than sustained by a comparison of the Assisi frescoes with the miniatures. (F. FILIPPINI, *Boll. Arte*, V, 1911, pp. 41-62.)

The Palazzo Bellomo in Syracuse.—In *Boll. Arte*, V, 1911, pp. 183-196, E. MAUCERI gives a series of views and plans of the recently restored Palazzo Bellomo, Syracuse. The ground floor of the palace dates from the end of the thirteenth century, the upper floor from the fifteenth. Its principal features are a fine open staircase in the court, and the windows, of which one on the ground floor, probably dating from the later enlargement, shows Catalan influence.

The Great Altar of the Duomo at Arezzo.—In *Rass. d' Arte*, XI, 1911, pp. 127-140, A. DE VITA studies the sculptures of the great altar of the Duomo at Arezzo and endeavors to distribute the authorship among a number of sculptors. The earlier reliefs of the front comprising the scenes from the life of S. Donato he assigns to the school of Giovanni Pisano. A second cycle of reliefs comprises the Madonna scenes in the upper part of the front of the altar and the scenes of S. Donato on the sides and back, which are to be assigned to the Siennese Agostino di Giovanni and Agnolo di Ventura, and possibly to Giovanni di Agostino. They are, therefore, of the earlier half of the fourteenth century. The upper sculptures of the sides and back belong to the third and last cycle and are due to Giovanni di Francesco and Betto di Francesco da Firenze, of the latter part of the same century.

The Fourteenth Century Windows of S. Francesco at Assisi.—The stained glass of the lower church is the subject of an article in *Rass. d' Arte*, XI, 1911, pp. 153-160 and 161-168, by G. CRISTOFANI. Three schools are represented, the Florentine, Siennese, and the local one of Assisi. The windows of the chapels of S. Nicoló and of the Maddalena were done by the same artist who executed those of the Bardi chapel in S. Croce at Florence. The Siennese school, noteworthy for the opaqueness of the colors, is represented by the windows of the chapel of S. Martino and that of the Baptist, while the local work of Giovanni Bonino and his school is found in the chapels of St. Anthony of Padua, of St. Louis, and of St. Catherine. The first two chapels were honored with the work of Bonino himself, the school work being found in the one last named. The article is largely concerned with the interpretation of the iconography.

Campo Santo Frescoes and the Funeral Liturgy.—In *Mitt. Kunsthist. Instit.* 1911, pp. 237-254, H. BROCKHAUS compares the cycles of frescoes in the Chioostro verde at Florence, the Campo Santo at Pisa, and the cemetery of the parish church at Cercina near Florence, and finds that the concept underlying all three is the graphic illustration of the prayers for the dead.

The Romance of the "Dame de Vergy."—In the bridal room of the recently restored Palazzo Davizzi-Davanzati is a cycle of frescoes, the subject of which has hitherto eluded investigators. In *Gaz. B.-A.* IV, 1911, pp. 231-242, W. BOMBE has succeeded in identifying the subject with the story of the châtelaine of Vergy. The artist has used an Italian version perhaps by Antonio Pucci, which is preserved in a manuscript of the Riccardiana. The frescoes are Giottesque in character, and possibly by a follower of Orcagna. Another more fully illustrated account of the palace

and its frescoes is contributed by the same writer to *Z. bild. K.* XXII, 1911, pp. 253-263.

S. Maria Maggiore at Lomello. — *Arte e Storia*, 1911, pp. 175-181 and 193-205, contains a description of the church of S. Maria Maggiore at Lomello near Pavia by A. K. PORTER. He describes the church as a "masterpiece of Lombard architecture of the first half of the eleventh century," and ascribes it to the year 1025.

FRANCE

The History of a Seal. — The seal of the Priory of La Charité-sur-Loire, dating from 1270, displays the Virgin seated, with the Child on her knee. Behind her is an angel bearing a globe on which is a cross. A woman kneels before the Virgin. In the field is a dove in flight and in the exergue an eagle and a group of quadrupeds. The inscription reads: EMMANOYHA. This detail and the style shows that the seal is Byzantine of the sixth or seventh century and was adapted by the priory. The seal of 1270 must have been lost, for the later one is a copy in Western style of the old Byzantine seal. (J. ROMAN, *B. Soc. Ant. Fr.* 1911, pp. 139-141.)

The Palace of the Popes at Avignon. — In *Arch. Rec.* XXX, 1911, pp. 522-537 (15 figs.), F. LEES publishes a general account of the Palace of the Popes at Avignon, describing briefly the frescoes and the restorations undertaken by the architects Henri Revoil and Henri Nodet. The alterations made since the Revolution are being changed as rapidly as possible and the building restored to its original form.

Thomas Toustain and the Cathedral of Le Mans. — In *M. Soc. Ant. Fr.* LXX, 1910, pp. 115-134, H. STEIN argues on the basis of a document dated July, 1258, that Thomas Toustain was one of the architects of the cathedral of Le Mans.

Romanesque Bases. — The bases of Romanesque columns may be divided into two classes, the moulded bases and those consisting of a truncated cone or pyramid. The first class derives from the classic and is composed of a scotia between two toruses, one large torus, or a series of toruses. The second class of bases occurs even in Gallo-Roman work and is frequent in the Carolingian period. In the twelfth century a torus is often inserted between the shaft and the conical base. The decoration of the base developed in the second class and in the bases of the first which had a single torus. Rare in the eleventh century, this decoration becomes the rule in the twelfth, and is particularly rich in Burgundy. Spurs occur first in the Carolingian period, are found in the eleventh century, and reach their fullest development in the architecture of Ile-de-France in the twelfth century. (DESHOULIÈRES, *B. Soc. Ant. Fr.* 1911, pp. 97-98.)

GREAT BRITAIN

Early Christian Art. — In *Proc. Soc. Ant.* XXIII, 1911, pp. 325-333 (pl.), W. R. LETHABY argues that a sarcophagus in the British Museum decorated with Cupid and Psyche at a banquet is really early Christian, and dates from the fourth century A.D. A mosaic from Carthage, on which a hart and a hind appear drinking from four streams is also Christian and probably from a baptistery. He compares with the beautiful fourth cen-

tury ivory panel in the South Kensington Museum a marble relief in the Museo delle Terme, from which it may have been copied. He thinks that the carved book cover of the psalter of Melisenda, daughter of Baldwin, is not Byzantine, but French Romanesque, and carved at Angers about 1170. He also argues that Romano-British pavements upon which Orpheus appears are Christian.

Anglo-Saxon Antiquities from Market Overton.—In *Archaeologia*, LXII, 1911, pp. 481-490 (5 figs.), V. B. CROWTHER-BEYNON describes the discoveries made in the last few years at Market Overton, Rutland. There were two Anglo-Saxon cemeteries here; but the site is now being worked for ironstone and a scientific examination of it is impossible. The antiquities found are chiefly brooches of different forms. *Ibid.* pp. 491-496 (6 figs.), E. T. LEEDS adds a note on a gold bracteate from this site.

The First Cathedral Church of Lincoln.—In *Archaeologia*, LXII, 1911, pp. 543-564 (3 plans), J. BILSON describes the results of the excavations undertaken in recent years for the purpose of determining the plan of the first cathedral church at Lincoln, built by Bishop Remi between 1073 and 1092. It was found to consist of a choir of three bays terminating eastward in an apse and flanked by aisles; a transept, each arm of which consisted of two bays; a nave ten bays in length with north and south aisles; and two western towers at the ends of the aisles with the nave extended an additional bay between them.

A Viking Sword Pommel.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 302-307 (4 figs.), R. SMITH discusses a Viking bronze-gilt sword pommel in Norwich Castle, probably found in East Anglia. Its decoration is in sharp contrast to Anglo-Saxon and Irish art and shows dependence on Carolingian models. It dates from the latter part of the ninth century and may have belonged to the sword of a Danish invader.

A Norman Relief.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 518-520 (pl.), P. NORMAN calls attention to a Norman relief 14½ in. long by 7½ in. wide from Guy's Hospital, Southwark. It represents "Christ in Majesty," *i.e.* seated, richly clothed, with his right hand in an attitude of benediction and his left holding an open book which is supported on his left knee. It dates from the twelfth century.

Carved Heads on the South Doorway of Wotton Church.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 353-355 (2 figs.), P. M. JOHNSTON conjecturally identifies four of the carved heads on the south doorway of Wotton Church as King John and his Queen Isabella, Pope Innocent III, and Ralph Camoys. The carvings are not later than 1215.

Exchequer Tallies of the Thirteenth Century.—In *Archaeologia*, LXII, 1911, pp. 367-380 (4 pls.), H. JENKINSON discusses the thirteenth century exchequer tallies, of which several hundred were found by the Office of Works during recent repairs to the Chapel of the Pyx at Westminster. They are now in the Public Record Office.

RENAISSANCE ART

GENERAL AND MISCELLANEOUS

The Latin Monuments of Chios.—In *B.S.A.* XVI (session 1909-1910), pp. 137-182 (34 figs.), F. W. HASLUCK describes the Latin monu-

ments of Chios. These date chiefly from the second Genoese occupation (1346-1566), when Chios was governed by a Genoese mercantile company, the shareholders of which took almost always the surname and coat-of-arms of the Giustiniani. The monuments, apart from the walls, consist chiefly of inscriptions and reliefs of heraldic or religious character. They are of little artistic interest, on the whole, and their quality is Genoese, not local. An appendix (pp. 183 f.) contains Thevet's description of Chios written shortly after the Turkish conquest in 1566.

Portraits of Erasmus.—Metsys, Dürer, and Holbein each made portraits of the great humanist, and to the former there is attributed in addition a small medallion likeness, dated 1519. The correspondence of Erasmus and More shows that the former sent to the Englishman a portrait of himself and of Aegidius (Pierre Gilles, secretary of Antwerp), painted by Quentin Metsys. The original panel was sawed in two, and the Aegidius, though often mistaken for the portrait of Erasmus himself, is now to be found in the collection of Lord Radnor at Longford Castle. There are many replicas of the Erasmus, the original of which is probably the picture in the Stroganoff collection at Rome. The Dürer copper plate is a highly idealized affair, inspired by a sketch made from life at Antwerp, but finished six years later. Holbein's first portrait of Erasmus is found on the margin of a copy of the *Praise of Folly*, in the Basel Museum. He painted him again in 1523, both alone and with Froben, and for the last time in 1528. (A. MACHIELS, *Gaz. B.-A.* IV, 1911, pp. 349-361.) The Stroganoff picture was recently presented by the heirs of Count Stroganoff to the Galleria Nazionale in Palazzo Corsini. (*Boll. Arte*, V, 1911, pp. 323-324.)

Joseph in Prison.—In *R. Arch.* XVIII, 1911, pp. 297-300 (fig.), HERMANN NORSE makes known a small painting in the collection of Professor Baron v. Bissing in Munich. It represents the interpretation by Joseph of the visions of the chief butler and the chief baker (Genesis xl), and is a replica (not quite exact) of the picture belonging to M. Aynard of Lyons (Exposition des Primitifs Français, 1904, *Catalogue*, No. 89. "École de Picardie vers 1480. Le songe du grand echanson"). In a picture in the Musée Condé at Chantilly (*Catalogue*, "Écoles étrangères," p. 198), formerly attributed to D. Bouts and then to the French school about 1480, is a figure of a prince which much resembles this Joseph.

ITALY

The Codex Berolinensis.—The collection of drawings of antique monuments known as the *Codex Berolinensis*, has usually been ascribed to Girolamo Ferrari. Its drawings fall into two groups, the former evidently earlier and showing the earlier style of the draughtsman, the other later. Similar drawings in the Uffizi belong to the same collection, which proves to be the work of Giovanantonio Dosio, and was made between 1561 and 1565. Shortly before 1569 he made a revision of the collection, probably with a view to publication, and at that time introduced several drawings from other sources, and put in the notes that appear upon the folios to-day. Much of the collection is obviously lost; the architectural portion has found its way into the Uffizi, while the drawings of sculpture are found in the Codex in the Kupferstichkabinett in Berlin. (P. G. HUEBNER, *Mh. f. Kunstw.* IV, 1911, pp. 353-367.)

Archival Researches.—The Beiheft of the *Jb. Preuss. Kunsts.* XXXII, 1911, is devoted to a series of discussions based on Italian archives. DETLEV FR. V. HADELN treats the decoration of the Ducal palace in Venice with special reference to the rooms of the Ten, the Sala delle Quattro Porte, and the Anticollégio and Collegio (pp. 1–33). Documents from the Archivio di Stato at Florence provide the basis of H. GEISENHEIMER'S article on the negotiations of the Medici for Flemish and Dutch pictures in the latter half of the seventeenth century (pp. 34–61). G. GRONAU contributes a series of documents in the National Library at Florence, bearing on the construction and decoration of the New Sacristy and the Library of San Lorenzo (pp. 62–81).

New Data on Bartolomeo Vivarini.—In *Burl. Mag.* XIX, 1911, pp. 192–198, T. BORENIUS publishes an account of three pictures of Bartolomeo Vivarini, the first of which, belonging to Sir Hugh Lane, bears the date 1448 with the added information that the artist painted the picture at the age of sixteen. It follows that he was born in 1431 or 1432, and that this is his earliest dated work. It is a rather stiff work, representing the Madonna adoring the Child, and betrays considerable Paduan influence. The other pictures discussed are an Adoration of the Magi in the possession of Mr. J. P. Morgan, and the Death of the Virgin, late of the Charles Butler collection.

Raphael's "Young Cardinal."—By comparison with a medallion portrait by Caradosso, H. HYMANS concludes that the original of Raphael's "Portrait of a Young Cardinal" in the Prado at Madrid is Scaramuccia Trivulzio, bishop of Como at the time that the picture was painted, which must have been between 1517 and 1520. (*Burl. Mag.* XX, 1911, pp. 88–90.)

A Portrait of Michelangelo by Raphael.—The second head from the right (Fig. 7) in the group surrounding the Pope in Raphael's fresco of the "Delivery of the Decretals" in the Stanza della Segnatura is held by W. ROLFS to be a portrait of Michelangelo at the age of thirty-six (*Z. bild. K.* XXII, 1911, pp. 206–214). The group is evidently made up, in part at least, of contemporary portraits. The Pope is Julius II, and the two cardinals holding his robe are Giovanni de' Medici and Alessandro Farnese. There is no reason to suppose a rivalry between the two artists in Michelangelo's younger days that would have prevented such a courtesy on the part of the younger painter, and the head agrees with the earlier portrait of Michelangelo, so far as it can be reconstructed from extant sources.

Raphael's Source for the Architecture of the "School of Athens."—In the *Mitt. Kunsthist. Instit.* 1911, pp. 229–236, C. HUELSEN discusses Raphael's source for the architecture of the "School of Athens." He scouts the idea that the painter borrowed his architectural design from Bramante, but regards it as likely that he imitated, in the general composition, Ghiberti's "Reception of the Queen of Sheba," on the east door of the baptistery at Florence. For his actual details he seems to have made use of the Janus Quadrifrons in the Forum Boarium at Rome, and the base moulding of his palace is reminiscent of that of the Arch of Trajan at Beneventum.

The Architect of the Palazzo Sacchetti.—The Palazzo Sacchetti in Via Giulia is ordinarily assigned to Antonio Sangallo the younger, chiefly on the ground of a passage in Vasari and the inscription under a window of the first floor: DOMS · ANTONII · SANGALLI · MDXLIH.

D. GNOLI, however, in *Boll. Arte*, V, 1911, pp. 201-206, brings documentary proof to show that the inscription and the statement of Vasari refer to a smaller edifice constructed by the architect for his own use, which was afterward bought with other adjoining houses and replaced by the present palace which was erected for Cardinal Ricci da Montepulciano some time

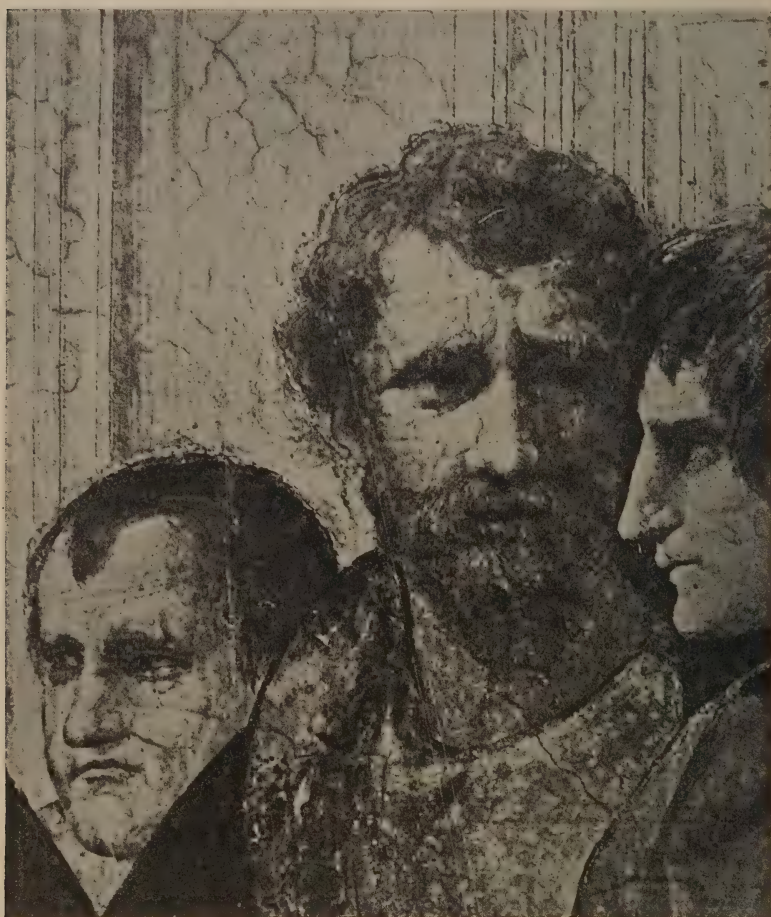


FIGURE 7.—PORTRAIT OF MICHELANGELO BY RAPHAEL.

before 1557. The architect was, in all probability, Annibale Lippi, who built the Villa Medici, on the Pincian. The details of the façade of the latter building show much resemblance to those of the Palazzo Sacchetti, save in its lowest story, which was probably transformed under the Medici. The inscription on the Palazzo Sacchetti was retained after the incorporation of Sangallo's house into the larger palace.

Notes on Giambono.—Giambono's masterpiece, the altar-piece representing St. James the Great with various saints, in the Accademia at Venice, has suffered a transposition of panels on the left side. The figures of St. John and the monk should change places, whereby the composition of the painting is greatly improved. The monk is not a saint, and is probably to be identified with Philip Benizi of the Servite Order. Berenson's Giambono does not represent St. Michael, but more probably one of the "Thrones," the highest of the heavenly hierarchies. (G. McN. RUSHFORTH, *Burl. Mag.* XX, 1911, pp. 100-107.) In *Rass. d' Arte*, XI, 1911, pp. 93-94, L. TESTI points out that the contract for the altar-piece for the church of S. Michele in the village of S. Daniele in Friuli shows that the execution of the piece was intrusted to Paolo di Amadeo as sculptor and to Giambono as painter, and that there is every reason to suppose that the altar meant is the one still existing in the church of S. Antonio, to which it was transported from its former location toward the middle of the eighteenth century. This is a polychrome sculptured altar-piece and, therefore, the Berenson picture, hitherto supposed to be a portion of this altar, can have no relation to it. He also maintains that the Pietà in the Museo Civico at Padua, which is there assigned to Giambono, is only a poor copy after the original in the Metropolitan Museum in New York.

Juliano Florentino, a Fellow-worker of Ghiberti, in Valencia.—In *Abh. Sächs. Ges.* XXIX No. III, 1911 (41 pp.; 13 pls.; 2 figs.), AUGUST SCHMARSOW discusses the twelve alabaster panels in the wall of the choir (trascoro) of the cathedral at Valencia. They represent in relief six scenes from the Old Testament and six from the New Testament. The archives prove them to be the work of a Juliano, and fix their dates between 1415 and 1424. The artist appears to be Juliano di Giovanni da Poggibonsi, mentioned in a contract dated June 1, 1407, as working with Ghiberti on the first bronze doors of the baptistery at Florence. His style seems to be influenced by Lorenzo Monaco. His works are interesting examples of Florentine picturesque sculpture in the early part of the fifteenth century.

The Date of the Death of Fiorenzo di Lorenzo.—A. BRIGANTI contributes to *Rass. d' Arte Umbra* (1911, pp. 83-86) a documentary study from which he concludes that this artist died in the early days of February, 1522.

Federigo Barocci's Drawings.—In *Abh. Sächs. Ges.* XXIX, No. II, 1911 (32 pp.; 7 pls.), AUGUST SCHMARSOW continues his critical study of Federigo Barocci (see *A.J.A.* XIV, 1910, p. 256; XV, 1911, p. 588) with a description and discussion of the drawings in the public collections in western Europe.

A Monument by an Unknown Sculptor.—In *Rass. d' Arte*, XI, 1911, pp. 175-176, L. OZZOLA publishes a reproduction of the altar of the cathedral at Piacenza which is signed: AMBROSII · MONTEVECCHI · MEDIO-LANENSIS · OPVS. He is inclined to identify this sculptor with the "Ambrosius de Montevegia lapicida" whose name occurs from 1476 to 1509 in the accounts of the Fabbrica del Duomo at Milan. It is also possible that the name "Ambrosius de Montenegro" which occurs in the accounts in 1507 and 1518 is a copyist's mistake for the same name. The Piacenza relief represents the crucifixion with Mary and John. Walled into the frame of the altar is a striking portrait of the donor, Bishop Bagaroto, by the same artist.

Venetian Enamelled Glasses of the XV and XVI Centuries.—A discussion of Venetian enamelled glass of the fifteenth and sixteenth centuries appears in *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 249-286, under the name of R. SCHMIDT. After showing that the ordinary attribution of the invention of this process to Beroviero is entirely ungrounded, the writer takes up the evolution of form and color in these vases and their classification, viz. vases with rich figured decoration, vases decorated with busts (among which he cites a milk-glass cup in the collection of Baron Maurice de Rothschild in Paris which displays a female bust evidently copied from a figure in the "Courtesans" of Carpaccio in the Museo Civico at Venice), vases with grotesques or medallions, etc., and vases designed for export, particularly to Germany.

SPAIN AND PORTUGAL

Andrés de Nájera.—P. LAFOND contributes to *Burl. Mag.* XX, 1911, pp. 133-139, a critique of the principal works of Andrés de Nájera, the choir-stalls of S. Domingo de la Calzada and those of S. Benito el Real, now in the museum of Valladolid. The years of the artist's greatest activity were 1517-1526.

A Picture of El Greco Explained.—A painting by El Greco in the possession of Don Ignacio Zuloaga has hitherto borne the title "Earthly Love." It is instead a rendering of the "Opening of the Fifth Seal," based on Rev. 6: 9 ff. The identification is certified by the fact that Dürer has a woodcut with a similar scene, on which the verses from the Apocalypse are inscribed. The sole difference is that the altar which appears in Dürer's cut is omitted in the picture. (H. KEHRER, *Mh. f. Kunstw.* IV, 1911, pp. 324-325.)

Paintings by the Master of S. Bento.—The master of S. Bento, who derives his title from the paintings in the cloister of S. Bento in Lisbon, was the author of a series of four paintings of uncertain subjects which formerly decorated the altar in the monastery church of Madre de Deus in Xabregas, near Lisbon. The first picture represents a female saint standing on the sea-shore, apparently assisting at a translation of relics. In *Z. bild. K.* XXIII, 1911, pp. 13-21, A. HAUPT believes that the saint is Queen Leonora of Portugal, the founder of the cloister, but does not explain the nimbus and palm which appear as attributes of the figure. Justi relates this scene as well as the next, which is somewhat similar, to the Ursula legend. The third picture represents a marriage, possibly that of John III with Catherine of Spain. The fourth scene depicts the bestowal of the Papal blessing on the newly married pair. The series is the masterpiece of this nameless Portuguese painter of the early sixteenth century.

FRANCE

A Madonna by Bernini in Notre Dame.—The Virgin and Child which lies unnoticed in the corner of a chapel in Notre Dame, Paris, is proved by M. REYMOND in *Gaz. B.-A.* IV, 1911, pp. 299-313, to be a documented work by Bernini. It was bought of the artist for the church of the Carmelites at Paris by the Cardinal Barberini, and the altar which formerly contained it in that church bears a close resemblance to that of the "Ecstasy of Santa Teresa" in S. Maria della Vittoria at Rome. The statue was re-

moved to the cathedral as a consequence of the troubles of the Revolution. It was executed after the master's sketches by Antonio Raggi.

A Provençal Painter of about 1500.—A St. Michael from Avignon exhibited in the Exposition des Primitifs français of 1904 excited considerable attention as an obvious production of the Provençal school of about 1500. The Annunciation on the back of the panel showed a great deal of Italian influence, and the same characteristic is betrayed by a "Sposalizio" in the museum at Brussels and lastly by a Deposition of St. Sebastian in the Johnson collection in Philadelphia. We have here to do with a painter of the south of France in close relation with the Italian schools of the early sixteenth century, especially those of Venice and Lombardy, the influence of Gaudenzio Ferrari being particularly visible. (H. Voss, *Mh. f. Kunstw.* IV, 1911, pp. 414-415.)

Pierre Bontemps.—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 265-371 (4 pls.), M. ROY traces the career of the sixteenth century sculptor, Pierre Bontemps. He was born between 1505 and 1510, is first heard of at Fontainebleau in 1536, and died between 1567 and 1570. The writer publishes forty-eight documents relating to him.

The Tomb of Louis de Poncher.—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 231-264, A. REY traces the history of the tomb of Louis de Poncher, two figures from which, representing Faith and Hope, are preserved in the Louvre. It was carved by Jacques Bachot in 1507.

"Marcus" on Limoges Enamels.—The name "Marcus" occurs on several Limoges enamels of c. 1500, and is particularly associated with one of the executioners at the Crucifixion. In the mystery which bears the name of the "Passion de Semur" the name is given to Pilate's servant, who is identified with the Malchus of John, 18:10. Malchus in turn occurs in some of the mysteries as one of the executioners of the Flagellation. The name in the enamel is, therefore, probably a reminiscence of the passion-plays of the fifteenth century. (J. J. MARQUET DE VASSELOT, *B. Soc. Ant. Fr.* 1911, pp. 125-127.)

BELGIUM AND HOLLAND

Jacques Daret and the Maître de Flémalle.—In *Burl. Mag.* XIX, 1911, pp. 218-225, G. H. DE LOO announces the discovery of the missing panel of the altar-piece which Daret painted for the church of St. Vaast at Arras. He identifies it with a Nativity in the possession of the Messrs. Colnaghi in London. The work shows a remarkable resemblance with the painting of the same subject by the "Maître de Flémalle" in the museum of Dijon and reinforces De Loo's contention that the latter is identical with Jacques Daret's master, Robert Campin.

Portraits by Antonius Palamedesz.—In *Mh. f. Kunstw.* IV, 1911, pp. 293-295, H. BURG publishes a portrait, in the possession of J. Boehler in Munich, which is the work of Antonius Palamedesz. The sitter is evidently the brother of the painter, who also forms the subject of a well-known painting by Van Dyck in the Old Gallery in Munich. The painting shows the change of style which the art of Antonius experienced under the influence of Van Dyck, his earlier manner, related to Franz Hals, being illustrated by the portrait of a girl in the Kaiser-Friedrich Museum at Berlin. The new portrait, therefore, belongs to his middle period, as also the portrait of

a youth in Berlin, while the "Gentleman and his Wife" in the Walraff-Richartz Museum in Köln are products of his latest days.

Joachim Bueckeleer. — *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 185-212, contains a monograph on Joachim Bueckeleer by J. SIEVERS. He sketches the life of the painter, who was a faithful follower of the style of his master, Pieter Aertsen, to which circumstance he doubtless owed much of his ill-success with the public. His favorite subject was still-life, and this is, indeed, the dominant note even in his figured scenes. He scarcely ever attempted any other kind of picture, one exception being the Rustic Festival at St. Petersburg wherein, however, he has merely imitated Aertsen's portrayal of the same subject in the Dansette collection in Brussels. His hands are superior to those of his master, who paints them weak and apparently incapable of grasping. On the other hand, his faces are conventionally treated, and invariably gaze outward from the picture. His compositions are often bound together by the simple means of depicting one figure in the embrace of another without apparent reason, a failing that is absent in Aertsen's work. His color-harmonies are measurably superior to those of his master. A chronological catalogue of the painter's works completes the article.

GERMANY

Johannes Sapiientis. — The name Johannes Sapiientis occurs in several documents of the archives of Turin which contain the accounts of works made for Amedeo VIII of Savoy. He may be identical with, or to be distinguished from, the "Jean Bapteur" who figures in the accounts of the House of Savoy from 1427 to 1437. It is quite likely, at any rate, that his name is a Latinization of that of Hans Witz, the father of Conrad Witz. It is possible that certain pictures in the museum at Chambéry may be attributed to him. (C. DE MANDACH, *Gaz. B.-A.* IV, 1911, pp. 405-422.)

Notes on Dürer. — The drawing of St. Catherine in the National Gallery of Ireland at Dublin is from Dürer's own hand and formed the model for the figure in the wing of the Tucher triptych as carried out by Kulmbach. The "Madonna auf der Rasenbank," a pen drawing in the British Museum, is certainly a work of the artist, as is also the Head of an Old Man in the same collection. The St. John in the woodcut, Christ on the Cross, of 1510, is a copy of an earlier figure by the master, the St. John of the canon-picture in a "Missale Speciale" of 1493. (C. DODGSON, *Burl. Mag.* XX, 1911, pp. 90-96.)

The Sebastiansaltar in the Old Gallery at Munich. — In an exhaustive study of the Sebastiansaltar in the Old Gallery at Munich contributed to *Rep. f. K.* XXXIV, 1911, pp. 255-264, A. HUPPERTZ shows that the workmanship of the piece portrays a unity of conception and treatment which precludes the assumption of more than one hand, and that the details point to the authorship of Hans Holbein the Elder. The wings, also, which have sometimes been considered an early work of the younger Holbein, must be given to the older master.

The Holzhausen Collection in the Städel Institute. — A collection, consisting chiefly of ancestral portraits, has recently been loaned to the Städel Institute by Freiherr Adolf von Holzhausen, and forms an almost complete illustrative series for Frankfort portrait painting considered his-

torically. F. RIEFFEL, discussing the collection in *Mh. f. Kunstw.* IV, 1911, pp. 341-352, assigns the earliest of the portraits, a work strongly suggestive of Dürer, to the Master of the "Mainzer Dreikönigsaltar." The Master X is the author of four portraits, one of them signed. The rest of the collection, of later date, offers little difficulty or interest in attribution.

Notes on German Woodcuts.—H. KOEGLER contributes to *Mh. f. Kunstw.* IV, 1911, pp. 389-408, a series of notes on Holbein's woodcuts supplementary to his own and Schmid's work in this field. A number of new wood and metal engravings are noted. The article closes with a résumé of the work of the Master C. S., who, Koegler suggests, may be identified with Conrat Schnitt of Constanz.

Woodcut Portraits of the Emperor Maximilian.—Four woodcuts representing the Emperor Maximilian are based on Dürer's drawing of 1518 in the Albertina at Vienna. The most remarkable is the fourth, which is an example of the gold-print process, and is to be assigned to Jost de Negker of Augsburg. The third is also an Augsburg work, while the first was probably done under Dürer's own direction by Springinklee at Nuremberg. (M. GEISBERG, *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 236-248.)

Early Paintings of the Frankfort School.—In *Rep. f. K.* XXXIV, 1911, pp. 333-350, K. SIMON notes the points of similarity in four pictures in Frankfort: a St. Anne, Madonna and Saints, in the Liebfrauenkirche; a Man of Sorrows, with Mary and John, in the Deutsch-Ordenskirche; a Crucifixion in the Staedel Institute, and another in the Weissfrauenkirche. The first two have the further peculiarity that a prominent feature in the background decoration is a violetlike flower which the author suggests is used as a signature by the painter whom he identifies with Conrad Fyol (d. c. 1500). "Veilchen," violet, is in old German, "fiol." The article contains, further, a summary of the characteristics of old Frankfort painting. The last three pictures of Simon's group are recognized as being of common authorship by C. GEBHARDT in *Mh. f. Kunstw.* IV, 1911, pp. 416-418. He does not, however, attempt to identify the painter.

The Model for the Tomb of Herzog Ludwig Der Gebartete.—By comparison of the stone model for the tomb of Herzog Ludwig der Gebartete in the Bayrisches National Museum in Munich with Hans Multscher's Kargaltar in the cathedral at Ulm and the sculptures of the Ulmer Rathaus, K. F. LEONHARDT arrives at the conclusion that the model was the work of that sculptor and was executed in 1435. (*Mh. f. Kunstw.* IV, 1911, pp. 513-515.)

The Augsburg "Costume Ball."—The original of the picture known as the Augsburg "Costume Ball" is an aquarelle in the Augsburg museum, but a better preserved copy is in the Kupferstichkabinett at Berlin. The picture represents a dance organized in 1522 by Mattheus Schwartz of Augsburg, in which the costumes of the periods from 1200 to his own day were worn by the dancers. The characters are many of them contemporary portraits and labelled with names. The painter is a skillful miniaturist, Narziss Renner, who also decorated the prayer book of the same Mattheus Schwartz, preserved in the monastery of Schlägl in Upper Austria. His affinities are rather with the "Donaustil" of Altdorfer, etc., than with the local art. The picture had considerable effect on similar subsequent representations. (G. HABICH, *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 213-235.)

Influence of the Netherlands on German Art of the Sixteenth Century.—In *Z. bild. K.* XXII, 1911, pp. 233–238, B. HAENDCKE reviews the art of Germany in the latter half of the fifteenth and the first half of the sixteenth century, and concludes that the guiding influence was Flemish rather than Italian, except for about twenty years (1520–1540), when Italian fashions were predominant in Germany. The reason for the general leaning toward the Netherlands is in his opinion the difficulty experienced by German artists in mastering the Italian language and sympathizing with the fresco technique. The conscious desire of the German artist was a better understanding of color and other purely pictorial qualities, and in this field the Netherlands could teach him quite as much as Italy.

GREAT BRITAIN

A Carved Oak Chest.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 415–425 (pl.), E. P. WARREN publishes an oak chest, probably an aumbry belonging to St. Sannan's church, Bedwellty, Monmouthshire. It is of late fifteenth century date. On one end the upper panel represents the Five Wounds, and the lower the three nails upon a shield surrounded by a wreath. The four panels on the front have an elaborate tracery design. The writer also describes briefly the church.

A Carved Reliquary Case.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 355–358 (8 figs.), H. C. SMITH publishes a carved pear-wood reliquary case dating from about 1500 in private possession in Loddon, Norfolk. On the front James and John are seen standing on either side of a conventional flower. Other flowers appear on the back and sides. The writer regards it as English work.

Lead Panels.—In *Proc. Soc. Ant.* XXIII, 1911, pp. 360–369 (5 figs.), H. BREAKSPEAR discusses a number of ornamental lead panels from Bardney Abbey, Lincolnshire. They date from the fifteenth century, and were used for ornament against a background of wood or other material.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

Primitive Industries.—In a brief discussion of primitive ways of working stone in *Southern Workman*, XL, 1911, pp. 88–93 (19 figs.), H. I. SMITH treats of fracturing (chipping and flaking), battering or pecking, grinding and incising (picking, cutting, drilling, etc.). *Ibid.* pp. 143–154 (7 figs.), the same writer treats of the development of pottery in various parts of America, processes of manufacture,—Zuñi pottery, Peruvian “whistling jars,” mound-builders' vessels of animal and human forms, pipes, Mexican funeral urns, Pueblo vessels, etc. *Ibid.* pp. 209–218 (6 figs.), he treats briefly of Eskimo use of meteoric iron, pre-Columbian copper working, Argentine prehistoric bronze, use of gold and silver, modern Haida, Navaho, and Iroquois silversmiths. *Ibid.* pp. 515–520 (5 figs.), he discusses briefly tanning, skin-dressing, ornamentation, uses, etc., among the Eskimo, Modoc, Plains Indians, Ojibwa, etc.

Dances and Music of the Eskimos.—In *Z. Ethn.* XLIII, 1911, pp. 261–270 (5 figs.), C. LEDEN discusses the dances and music of the Greenland

Eskimos, and compares Indian music with this. He reproduces, as well as is possible in our notation, five Eskimo and three Indian songs.

UNITED STATES

Tlingit Pipe.—In his article treating of the native account of the meeting between La Pérouse and the Tlingit Indians in 1786, in *Am. Anthr.* N.S. XIII, 1911, pp. 294–298 (fig.), Lieutenant G. T. EMMONS describes and figures “a carved modern pipe of splendid proportions,” which illustrates the myth of Lituya, commemorating the meeting of the Indians and La Pérouse, the French navigator. This pipe, now in the collection of G. G. Heye, was obtained in 1888 from the chief of the Tucktaneton family of the Hoonahkow.

Snake Dance near Oraibi.—In *Nat. Geogr. Mag.* XXII, 1911, pp. 107–137 (31 figs.), MARION L. OLIVER describes, from personal observation, the snake dance as performed at Hotavila, near Oraibi. Many of the illustrations are of archaeological interest.

Stone Implements in the Champlain Valley.—In *Am. Anthr.* N.S. XIII, 1911, pp. 239–249 (6 pls.), G. H. PERKINS publishes a second paper on the aboriginal remains in the Champlain Valley. Grooved axes in great variety of form and size, and of all degrees of elegance, problematical objects (pierced tablets, winged stones, pick-shaped stones, boat-shaped stones, bar amulets, bird stones, pendants, plummets, discoidal stones), pipes, etc., are described and figured. Some of the problematical forms, at least, “had their origin outside of New England,” and “either the objects themselves were imported from farthest west, or those made elsewhere were imitated by the Indians of the Champlain Valley.”

Art of Penobscot Indians.—In *Museum Journal*, University of Pennsylvania, II, 1911, pp. 21–26 (5 figs.), F. G. SPECK gives an account of a visit to the Penobscot Indians, early in 1911. Among the Penobscot specimens in the Heye collection are a wampum necklace and a carved cradle board, both of which are figured.

A Petroglyph in Wrentham.—In *Am. Anthr.* N.S. XIII, 1911, pp. 65–67 (pl.; fig.), H. H. WILDER describes an inscribed boulder, the figures on which are, some of them, not unlike certain parts of the Dighton inscription, and also bear “a striking general resemblance to certain well-known petroglyphs, especially the one on Bald Friar Rock, Maryland.” This stone was originally found at West Wrentham, some thirty miles from the Dighton Rock, and about as far also from Swansea, in Bristol County, at which place another of the few petroglyphs reported from Massachusetts was discovered. The Wrentham stone, which was discovered about sixty years ago, was carried by its finder to his home in Cumberland, R.I., and, during the last thirty years, it served as part of a back doorstep. All possibility of fraud, Mr. Wilder assures us, is excluded, and we may count this as a genuine relic of the Algonkian aborigines of the country. The place where it was first found was “in West Wrentham, in the edge of Norfolk County, at a rough and picturesque spot known as ‘Joe’s Rock,’ popularly associated with stories of the Indians, and still remembered as the home of the last local native, called ‘Joe.’” The stone is “a small, oblong boulder of trap, its longest dimension being about ten inches, and its weight slightly under

thirty pounds." The inscription, counting the worn surface, runs around the entire stone.

Archaeological Forgeries in Michigan.—In *Am. Ant.* XXXIII, 1911, pp. 26–29, F. W. KELSEY again calls attention to certain archaeological forgeries from Michigan. These consisted at first, chiefly of caskets and tablets of clay (including one of the Deluge), with cuneiform and Egyptian inscriptions, etc. Subsequently copper tablets appeared. These spurious objects were described in 1908, in the *American Anthropologist*. An unsigned article, *Am. Ant.* pp. 12–25, under the heading 'Michigan, the Storm-Center of American Archaeology,' discusses the finds by Dean Savage and D. E. Soper of "prehistoric" copper, stone, and clay relics in Michigan, the genuineness of which has been doubted. The Savage-Soper discoveries are also discussed by J. A. RUSSELL in connection with the explorations of mounds in Wayne County, Mich., *ibid.* pp. 135–145. Finally, F. STARR, J. O. KINNAMAN, and J. E. TALMAGE prove (*ibid.* pp. 160–164) the fraudulent character of the tablets and other objects of clay, slate, and copper; but Messrs. Savage, Soper, and Russell are acquitted of all share in the "plants" by which they were deceived. Here appears to have been a "deliberate scheme of deception and fraud," the parties to which can probably be discovered and identified.

The Kensington Rune Stone.—In *Rec. Past*, X, 1911, pp. 33–40 (2 maps), is published a Preliminary Report to the Minnesota Historical Society, on the Kensington rune stone. The report is to the effect that, provided a competent Scandinavian expert in language verify the inscription, the committee would render a favorable opinion as to the authenticity of the stone. Professor G. Böhne, the expert selected, made an unfavorable report, and suggested examination by expert runologists in Norway. *Ibid.* pp. 260–271 (4 figs.), H. R. HOLAND gives the results of his inquiries among the runologists and Scandinavian philologists of Europe, as to the Kensington stone, and replies to their objections (particularly those of M. Haegstad, who declared it a forgery). According to Mr. Holand, Professor G. T. Flom's assertion that the maker of the inscription was a Dalecarlian, judging from the runes, is not proved.

A Rare Flint.—In *Am. Anthr.* N.S. XIII, 1911, pp. 172–173 (fig.), W. C. BARNARD describes a "ceremonial knife" found about 1891, near Elsberry, Lincoln County, Mo., having been ploughed up in a cornfield. This implement, which is of extreme thinness, "is a masterpiece of the ancient flint-worker's art, and fascinates the eye by its graceful outline, beautiful color, and magnificent workmanship."

An Unexploited Culture.—In *Rec. Past*, X, 1911, pp. 249–259 (14 figs.), R. F. GILDER writes of "discoveries indicating an unexploited culture in eastern Nebraska." The house-ruins in question, with which are associated numerous tumuli, are not arranged in village-groups, but seem to be "scattered at random." They are quite numerous, — two hundred in eastern Douglas County, two hundred in Sarpy County, and five hundred in Washington County. Among the objects found in these ruins are: Pottery pipes "of hitherto unknown designs," and pipes of soapstone, pots and bowls of a dozen kinds, shell spoons and pendants (also a gorget), clay beads, stone knives and arrows, implements of bone and horn (comb, needles, shuttles, fishhooks, arrow-straighteners, etc.). On one of the pot-

tery-shards is "a good drawing of a turkey." Some of the antler objects are thought by Mr. Gilder to be phalli (terra-cotta phalli were found in one ruin). Interesting also is a carved human head of pink soapstone. The opinion is expressed that some of the objects here discovered show "a decided southern—Mexican or Central American—influence, their range being probably greater than that of any other culture north of Mexico." But this remains to be proved.

Nebraska "Loess Man."—In *Rec. Past*, X, 1911, pp. 157–169 (10 figs.), R. F. GILDER discusses and criticises "inaccuracies" in the report on the "loess man" of Long's Hill, near Florence, Neb., in his monograph (*B. A. E. Bull.* No. 33) on 'Skeletal Remains,' suggesting or attributed to early man in North America. Dr. Hrdlička finds no reason to believe in "a more than moderate antiquity for the Gilder mound specimens." The report of B. Shimck (*Bull. Geol. Soc. Amer.* Vol. XIX, 1908) on the Nebraska "loess man" is also criticised. Mr. Gilder is satisfied that "the bones were found in the undisturbed loess formation."

Glacial Man at Trenton.—In *Rec. Past*, X, 1911, pp. 273–282 (5 figs.), G. F. WRIGHT reviews and discusses E. Volk's monograph (*Peabody Mus. Pap.* Vol. V) on *The Archaeology of the Delaware Valley*, which embodies the results of twenty years' painstaking and laborious investigation. Mr. Wright is of opinion that "these investigations amply sustained the early contention of C. C. Abbott that there was a sharp line of demarcation between the earlier occupation of the Delaware Valley when argillite only was used for implements and its occupation by Indian tribes who had discovered flint and jasper and made use of pottery." Also that glacial man is proved for the Trenton region,—the human femur, found in place "in an unquestioned deposit of glacial gravel," December 1, 1899, is held to be of great significance. *Ibid.* p. 297 (2 figs.), the discovery in the Trenton "yellow drift" of two argillite implements of palaeolithic form is reported.

Pottery-making at San Ildefonso.—In *Am. Mus. J.* XI, 1911, pp. 192–196 (10 figs.), H. J. SPINDEN treats of the making of pottery and its decorative designs among the Pueblo Indians of San Ildefonso, on the east bank of the Rio Grande, about twenty miles northwest of Santa Fe. This pueblo "is famous for water jars and large storage vessels with conventionalized designs in red and black upon a cream-colored base," but "red base pottery with designs in black, polished black pottery, and rough cooking ware are also made." The Indians "have a keen appreciation of nature which shows in every feature of their decorative art."

Iroquois Silversmithing.—In *Am. Anthr.* N.S. XIII, 1911, pp. 283–293 (5 figs.), A. C. PARKER adds to the evidence already furnished of the European origin of the heart-shaped silver brooches, which continued to be fashioned by the Iroquois as late as 1865. The simple and the more complicated form of Iroquois silver brooches of the Masonic *motif* are figured and described.

The Pompey Stone.—In *Am. Ant.* XXXIII, 1911, pp. 7–11 (fig.), W. M. BEAUCHAMP shows that the celebrated Pompey stone (with date 1520), said to have been found in 1820 at the town of Pompey, N.Y., was a joke or a fraud, the two perpetrators of it now having been discovered.

Specimens lost in Capitol Fire.—In *Am. Anthr.* N.S. XIII, 1911, pp. 167–169, A. C. PARKER states that in the conflagration of March 29,

1910, "the archaeological and ethnological collections of the State Museum (New) York were almost totally destroyed by fire and water." The Converse collection of silver articles was rescued; but the famous Morgan collection of old Iroquois textiles and decorated fabrics were among the first to be destroyed by the flames, — the Parker collection of rare objects and the Morgan ethnological collection, except some fifty specimens, were also lost. The Iroquois wampum belts were saved, and, curiously enough, "hardly a single object connected with the ceremonies of the Iroquois totemic cults or the religious rites was injured." Not even a hair of the medicine masks was singed.

Iroquois Wampum Belts. — In *Museum Journal*, University of Pennsylvania, III, 1911, pp. 26–27 (fig.), F. G. SPECK describes briefly a wampum belt obtained from the wife of a Wyandot chief in Oklahoma; also another obtained in 1903 from Atowa Tohonadiheta, a Canadian Iroquois. The second belt is said to have been used at a treaty in 1612.

Traditions as to Mound Origins. — In *Rec. Past*, X, 1911, p. 242, A. B. SROUT reports the statement of a Winnebago Indian as to the origin of mounds near the Wisconsin River, viz. that some of them were for burial purposes, while others may have represented "spirit-animals" used as "totems." This information was obtained in the summer of 1910.

CANADA

Industries of Haida, Tsimshian, etc. — In *Am. Mus. J.* XI, 1911, pp. 130–137 (5 figs.), E. C. B. FASSETT describes the first four of a series of mural paintings by W. S. Taylor in the American Museum of Natural History, New York. These portray the following: Weaving a Chilkat blanket, steaming and decorating a Haida canoe, Tsimshians making *eulachon* butter, and a Bella Coola (Bilqula) family making "bread."

Totem Poles. — In *Am. Mus. J.* XI, 1911, pp. 77–82 (10 figs.), H. I. SMITH treats briefly of totem poles of the North Pacific coast, figuring poles from the Haidas, Tlingit, Comox, Bella Coola, etc. According to the author a crude *tamanawas* board from Bay Center (Wash.) is evidence of "totem pole influence south of the North Pacific culture area."

Le Jeune's Shorthand. — In *Southern Workman*, XI, 1911, pp. 480–485 (fig.), L. E. ZEH writes of the shorthand system which Father Le Jeune taught the Indians of the region about Kamloops, B.C., who now can read and write in it. The *Kamloops Wawa* (published in the Chinook Jargon) is now printed from type specially made for the purpose.

Handicrafts of Northern Ojibwas. — In his article on 'Life and Handicrafts of the Northern Ojibwas,' in *Southern Workman*, XL, 1911, pp. 273–278 (5 figs.), CHARLES A. EASTMAN gives some notes on basketry, net-making, skin-dressing, canoe-making, etc., among the Ojibwa Indians of Lake of the Woods, Rainy Lake, etc.

Hurons of Lorette. — In *Am. Anthr.* N.S. XIII, 1911, pp. 208–228 (4 pls.; 19 figs.), F. G. SPECK discusses the material culture of the Hurons of Lorette visited by him in 1908–9 and 1911, — their clothing and ornament, hide-tanning, means of transportation (snow-shoes and implements used in making them, sleds and toboggans, utensils and manufactures, basketry, birch-bark and wooden ware), lacrosse-sticks, toy bow and arrow, and dolls.

For boring holes in wood is used "an ingenious horizontal chest bow-drill." Two wampum belts (one Huron, the other Wyandot) are described and figured (pp. 227-228),—they are now in the collection of Mr. G. G. Heye. Another belt is still in possession of the chief of the Hurons. The art of canoe-making (birch-bark) has been much modified by Malisit influence; *ibid.* pp. 1-14 (3 pls.; 8 figs.), he discusses in some detail Huron moose-hair embroidery. The two wampum belts are also figured and described by him in *Museum Journal*, University of Pennsylvania, II, 1911, pp. 26-27 (fig.).

MEXICO

The Stucco Façade of Acanceh in Yucatan.—In *Sitzb. Berl. Akad.* 1911, xlv, xlvii, pp. 1011-1025 (10 pls.; 3 figs.), EDUARD SELER describes and discusses the stucco façade of a pyramid at Acanceh in Yucatan, which is fast being destroyed. The façade has an upper and a lower cornice and a broad band between. All are decorated with reliefs divided into compartments. The designs of the broad field are fantastic animals, birds, etc., the meaning of which might perhaps be made out if the other sides of the pyramid were uncovered.

Symbolism of the Eye in Ancient Mexico.—In *Arch. Anthr.* N.F. X, 1911, pp. 39-42 (27 figs.), H. BEYER treats of the symbolism of the eye in the Aztec Codices, etc. The eye represents a star, and appears in conventionalized form in hair and breast ornaments. It symbolizes death and night so closely akin, and the west, being the region of night, is symbolized by the star-eye. The "eye of darkness" is found elsewhere in connection with the gods. The eye represents also light and fire, life, *chalchihuitl*.

A Sacrificial Vessel.—In *Z. Ethn.* XLIII, 1911, pp. 293-306 (6 figs.), K. T. PREUSS seeks to explain the sacrificial vessel, or *quauhxicalli* of the ancient Mexicans through the *tusa* or gourd-dish on the altar of the Cora Indians of the village of Jesus Maria, in the light of the explanations given him by the natives. According to Preuss, the Mexican *quauhxicalli*, with the figure of the sun, is the prototype of the gourd-vessel on the altar of the Cora,—both signify, in their details, a number of identical things. The Cora vessel is not used for human sacrifice, although as such it was earlier attributed to the Indians of this part of Mexico.

Ancient Mexican Manuscripts and the Development of Writing.—In *Proc. Am. Ant. Soc.*, N.S. XXI, 1911, pp. 80-98 (7 pls.; 16 figs.), A. M. TOZZER discusses the value of ancient Mexican manuscripts in the study of the general development of writing, with reproductions from the Mendoza Codex and other documents. According to the writer, "there is found in Mexico, perhaps to a greater degree than in any other one place in the world, examples of all the different kinds of writing," from "a preliminary stage of reminders," to "the beginning a syllabary, the first step in the development of a phonetic writing, and a step beyond which the Nahuas did not go." Possibly, if they had been left to develop their culture in their own way, a true alphabet might have arisen among them. The hieroglyphic writing of the Mayas "does not serve as well as that of the Nahuas to illustrate the various steps in the development of writing as a whole." Moreover, far less is known concerning the phonetic components of the Maya glyphs.

Notes on the Codex Troano. — In *C. R. Acad. Insc.* 1911, pp. 516-522 Dr. CAPITAN publishes four observations on the Mayan Codex Troano. 1. Certain figures in the manuscript which appear to be boring, cutting, or painting a head are making an eye in the head of an idol. 2. The two gods, of whom one seems to be smoking a large cigar, and the other holding implements for making a noise, are producing a volcanic eruption with the accompanying noise. The five hieroglyphs beside these figures he would read *manik, kan, men, eb, ahau* and translate, "He seized his magic instrument, and the earth rose before the god." 3. He suggests that the trumpet before the god Itzamna is an augmentative from the hieroglyphic writing. 4. Certain figures have on their heads what looks like a stick ending with a hook in front. This is really the *atlatl* or throwing-stick. Various South American tribes are known to carry their weapons on their heads.

Religious Relics in the Otomi District of Lerma. — In his ethnographic account of the Otomis of the District of Lerma, State of Mexico, in *An. Mus. Nac. de Arqueol.* III, 1911, pp. 57-85 (9 pls.; 5 figs.), P. HENNING devotes a section (pp. 68-78) to the subject of religion, and calls attention to influences of old heathendom on the "Christian" cult of the country to-day, particularly with respect to image-worship, etc. The image of the famous Señor de la Cana at Lerma recalls, *e.g.*, the Tlaloc-Cinteotl of the ancient Nahuas; the image of the Virgin of Guadalupe at Tultepec, and that also at Ameyalco resemble markedly the goddess Xilonen. Much of the ancient Indian cult still survives among these Indians, and in the region about Lerma there are a number of shrines or chapels, where the natives carry out some of the old ceremonies of a more or less religious character. In the shrine of San Nicolas Peralta are crosses dedicated to the Virgin and to Jesus, before which offerings of copal, etc., are made. On these crosses the face of Jesus is given rays, and other *rapprochements* to solar ideas occur; others are adorned with stars only. At Acapulco, to the southeast of Ocoyoacan, is another of these shrines, where the crosses dedicated to Jesus, in their adornment, in the offerings, etc., bear evidence that "the Indians are Catholics in those points having the nearest affinity to their ancient beliefs."

Chichen Itza. — In *Museum Journal*, University of Pennsylvania, II, 1911, pp. 10-21 (8 figs.), G. B. GORDON gives an account of a visit to the ruins of Chichen Itza in the summer of 1910.

Diminutive Dolls. — In *Nat. Geogr. Mag.* XXII, 1911, pp. 295-299, R. H. MILLWARD describes "the smallest dolls in the world," made by Isabel Belaunsavan, a Mexican Indian maiden of Cuernavaca, seventy-five miles from the capital of Mexico, in the fertile valley of Cuernavaca. At Cuernavaca are also the "Lizard Stone" and the "Victory Stone," besides many other prehistoric stone carvings. Not far off are the ruins of Xochicalco; and seven miles away, at the Indian village of Juitepec, "some of their mysterious customs are still observed."

Ruins near Chalchihuites. — In *An. Mus. Nac. de Arqueol.* II, 1910-1911, pp. 467-492 (8 pls.; 5 plans), M. GAMIO gives an account, based on a three months' visit in 1908 under the auspices of the Mexican National Museum, of the archaeological remains in the vicinity of Chalchihuites, in the State of Zacatecas. These include numerous artificial caves, fortifications, dwellings (isolated and in groups), and, on the ranch of Alta Vista,

a group of buildings, buried under heaps of earth, with the doorways blocked up, etc. This was evidently done intentionally for some reason or other. The writer states that there is evidence of a great fire having taken place before the burying and blocking up. The remains at Alta Vista consist of a hall of twenty-eight columns with two entrances; and at the west of the main building some minor buildings connecting with it. There are likewise terraces or platforms, stairways, etc. The columns are arranged in four series of seven parallel to the walls. In the central nucleus of the locality are more than twenty mounds, and many more in the vicinity. This, with the numerous indications of dwellings, the evidences of fortifications on the neighboring hills (particularly the Cerro del Chapin, etc.), indicates that the place must have been of considerable importance. Among the objects discovered at Alta Vista were many specimens of pottery of two types (glazed and painted; unglazed, with ornamentation by incrustation and cloissoné). Human bones, but too much disintegrated to be removed, were found in great quantity. One skull bore evidence of having been trepanned. In structure and form the columns "are identical with those of La Quemada," while certain other things, such, *e.g.*, as the adobe employed, a metate, some stone axes, certain "amulets" found in the column-hall, etc., suggest comparison with the Casas Grandes ruins of the Pueblo region of Arizona and New Mexico. Sr. Gamio is of opinion that the remains of Chalchihuites represent the northern limit of the column and stairway type of architecture belonging to south and southeast Mexico, and that there is evidence also of Pueblo influence. In fact, "they constitute a transition between North and South."

CENTRAL AMERICA

Chiriqui. — In *Mem. Conn. Acad. Arts and Sci.* III, 1911, xx + 249 pp. (49 pls.; 38 figs.), G. G. MACCURDY treats of the antiquities of Chiriqui, Panama, giving chiefly the result of "a careful study of the unparalleled collection of Chiriquian antiquities belonging to the University." The material consists of stone objects (arrow- and spear-points, celts, polishing-stones, *metates*, rubbing or hand-stones, stools, images, ornaments, petroglyphs); pottery and clay objects, unpainted and painted vessels, etc.; stools, spindle-whorls and stamps, needle-cases, figurines, musical instruments, rattles, drums, wind-instruments; metal objects (alloys of gold and copper, casting, articles of use, ornaments, figurines, animal and human and with mixed attributes, masques, plaques), etc. The writer sees a "general phylogenetic trend in the development of Chiriquian art as a whole." And, outside of architecture, "the stone art of Chiriqui compares favorably with that of Mexico or Peru." The material is classified according to animal *motifs* (armadillo, serpent, fish, etc.). Three distinct systems of painting are noted. The great majority of the metal pieces were cast, wholly, or in part. Among the figures are recognized a number of deities (the alligator, parrot, jaguar, crab, and other gods). The plastic origin of the armadillo *motifs* asserts itself, even when transferred from unpainted to painted ware. The boundaries of Chiriquian culture exceeded those of the modern Province of this name, particularly in the direction of Costa Rica. Evidences of contact with and influence by South America are not wanting.

This valuable monograph is provided with a historical introduction, a bibliography, and a good index.

SOUTH AMERICA

Prehistory of Córdoba.—In *Rev. Mus. La Plata*, XVII, 1911, pp. 261–374 (134 figs.), F. F. OUTES treats of the prehistoric and the protohistoric periods in the Province of Córdoba, Argentina. After discussing the geology and stratigraphy of the region and the palaeolithic sites, the author takes up the neolithic period. The collections of material for both neolithic and palaeolithic periods in the La Plata museum (pottery, metal, shell, and bone objects, flints and stone implements, weapons, etc., are considered with some detail. At pages 312–317 the author describes and figures the rock-pictures and petroglyphs of the cerro Casa del Sol, the cerro Colorado, the arroyo Luampampa, etc. The Malagüeño finds he considers doubtful, and those of the locality of the Astronomical Observatory among the least doubtful, but they do not prove the existence of pleistocene man in this region of Argentina. At pages 292–293 the ancient Indians of the Córdoba country, Sanavirones, Comechingones, etc., are discussed. The neolithic sites in this region are very numerous. Among the more interesting specimens are the polished stone axes (some of which are carved with ornamental designs, etc.—these come especially from Lago San Roque), rude clay anthropomorphic figures, men and women, with sex indicated only by some secondary characters. The latest finds to be chronicled are a grinding-hole in the rock and a stone mortar from Dalmacio Vélez.

The Stone Age in Bolivia.—In *Bull. Soc. d'Anthr.* VI, 1910, pp. 189–190, M. G. COURTY discusses briefly the Stone Age on the Bolivian plateaus, giving the results of investigations made in 1903–1904, particularly the flints of Acheulean type, which belong rather to the Changos, and are comparatively recent. The flints found at Colcha in Bolivia are probably due to the direct predecessors of the modern Quechias. At an altitude of 4400 metres above sea-level on the cerro Relave, near San Antonio de Lipez, the writer discovered an important place of manufacture of black and green quartzites, the forms of which suggest the thick scrapers of the European neolithic period. Relave, according to M. Courty, exhibits the oldest implements of all the high plateau. A palaeolithic industry has not yet been proved for South America, but the establishment of all divisions in the neolithic is, he thinks, now possible.

The Ancient Peruvian Throwing-stick.—In *C. R. Acad. Insc.* 1911, pp. 407–410, Dr. CAPITAN discusses four throwing-sticks of different types from Peru, and two vases from the oldest period of Peruvian civilization, on which the use of the throwing-stick is illustrated. All of the objects are in the author's own collection.

Basketry in British Guiana—In *J. R. Anthr. Inst.* XLI, 1911, pp. 72–82 (15 pls.), W. E. ROTH discusses with some detail the manufacture of open-work basketry, traps, fans, etc., among the Arawaks and Warraus of the Pomeroon. Temporary baskets of palm leaves are made by the Warrau women and the Arawak men, but “all baskets for permanent use are made by men, and manufactured in different styles, according to the pattern of the foundation, *tuinatuku*.”

A Stone Seat from Manabi, Ecuador. — In *Am. Mus. J.* XI, 1911, p. 83 (fig.), C. W. MEAD has a note on a stone seat from Manabi. There are two such in the Stapleton collection in the American Museum of Natural History, New York.

South American Toys. — In *Z. Ethn.* XLIII, 1911, pp. 237-239 (5 figs), DR. KARUTZ of Lübeck, referring to Nordenskiöld's article, *ibid.* XLII, pp. 427-433, disagrees with his conclusion that similarity in the toys of North and South America proves that there was once a lively intercourse between the two continents. While he does not deny this frequency of intercourse, he thinks the similarity in toys no proof of this, and points to the identity of spring beanshooters, buzz-wheels, and popguns of East and West Africa with those of South America. He thinks such toys the natural and universal invention of primitive peoples, and refers to their distribution all over Europe.

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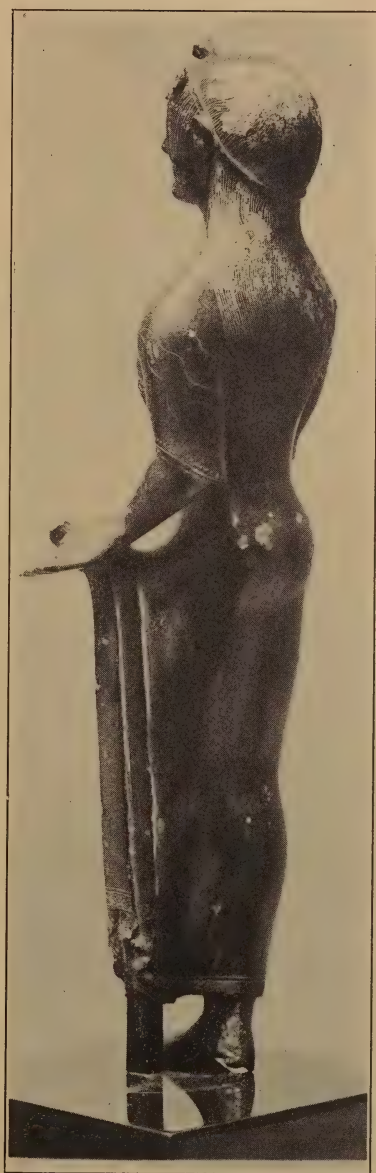
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[PLATES III-IV]

MR. J. PIERPONT MORGAN has lately come into the possession of an Etruscan bronze statuette of great importance.¹ From an artistic point of view it easily ranks as one of the finest Etruscan statuettes in existence, and archaeologically it is significant in affording a striking illustration of both the capabilities and the limitations of the Etruscan artist.

The statuette is $11\frac{9}{16}$ in. (29.4 cm.) high, and represents a girl standing erect, with left foot slightly advanced (PLATES III, IV). The right arm is bent forward at the elbow and probably held some object; the left is lowered and is grasping a fold of the drapery. She wears a long, sleeved chiton and a himation, arranged in broad vertical folds and passing from the right shoulder to below the left arm; also laced shoes with upturned, pointed toes, rosette-shaped earrings, a necklace of beads, and a fillet decorated with three rosettes. Her hair is long and hangs down her back in a broad mass, the individual hairs being indicated by incised lines of great delicacy. Ornamental borders are incised both on the himation and the chiton as follows: cross-hatchings on the lower edge of the chiton and along the left side of the himation; cross-hatchings with a row of dots on the upper and lower edges of the himation; a row of dots round the armholes and up both sleeves; zigzag lines and a row of dots on the upper edge of the chiton. Scattered over the surface of the chiton are small punctured designs of triple spirals . The lower corners of the himation end in tassels. The only missing parts are the right hand from

¹ At present on exhibition in the Bronze Room (gallery 12) of the Metropolitan Museum of Art, New York. I am indebted to Mr. Morgan for permission to publish this statuette.

above the wrist, and the left foot. The figure is cast solid and is covered with a smooth olive-green patina, but the surface is corroded in places, especially on the face.

The period to which the statuette belongs can be fixed without difficulty as the latter part of the sixth century B.C., both from its general style and from its resemblance as regards attitude and dress to the "Acropolis maidens" and similar marble, bronze, and terracotta figures of that time. That it is Etruscan and not Greek is shown by the shoe with turned-up toe, which was the regular shape employed by the Etruscans during the archaic period,¹ but which was foreign to Greek use.² Moreover, a detailed examination of the statuette will bring out many differences between it and contemporary Greek figures, which will demonstrate just how far the Etruscan artist succeeded and how far he failed to attain the level of his best Greek models.

First as regards the pose. In this the maker of the statuette can be said to have wholly succeeded. It has all the grace and delicate charm which distinguish archaic Greek art, without giving any suggestion of artificiality due to imitation; also the gesture of the left hand, with thumb and forefinger clasping the drapery and the three other fingers extended to their full length and bent slightly backward, is a small affectation not quite true to nature, but rendered here with great effect.

Again, in the modelling the artist attained a large measure of success. The features are carefully rendered and no longer in the primitive manner, but in the developed archaic style. The eyes are slightly narrowed and the eyeballs not so prominent as in the earliest figures. The representation of the mouth is also more adequately dealt with; for it is no longer a simple curve or line with turned-up corners, resulting in the archaic smile, but is carefully modelled, an effort being made to form a transition from the extremities of the lips to the cheeks. The chin and the cheek-bones are still strongly

¹ Cf. representations on paintings of the period, e.g. Martha, *L'Art étrusque*, pl. IV, and Figs. 285, 286; and numerous archaic Etruscan statuettes.

² L. Heuzey, in Daremberg and Saglio, *Dictionnaire*, I, p. 819, mentions only one example of its occurrence on Greek monuments; namely, a relief from Sparta.

marked, as always in archaic art, but no longer with any exaggeration. The neck is thick-set and the formation of the throat is hardly indicated; but in the rest of the figure there is a distinct attempt to make the forms of the body show through the drapery, the rendering of the chest being particularly good. Noteworthy is also the careful indication of the finger nails.

So far the figure stands on a high level and in no way betrays the hand of the copyist. When we come, however, to an analysis of the dress we are on different ground. Here the Etruscan artist has frankly failed to understand his models. Perhaps we cannot feel much surprised at this lack of comprehension when we consider the numerous contradictory theories which have been advanced regarding this mode of dress in modern times¹; and as a matter of fact at no period was Greek dress, at least as preserved to us on classical monuments,² more complicated and luxurious than during this time, that is, the second half of the sixth century B.C.

To understand where the artist of our statuette went astray in his rendering, we must briefly recapitulate the chief features of this early style of dress which he was trying to represent.³ The most essential part of it was the chiton, which covered the whole body from the neck to the feet. It was made of two rectangular pieces of linen, sewn together on their long sides

¹ The three main theories are: (1) that the dress consists of three different garments, first the chiton, then the chitoniscus (a sort of woolen jersey worn over the chiton), and lastly the himation (cf. e.g. Collignon, *Histoire de la sculpture grecque*, I, pp. 342 ff.); (2) that there are two garments, the chiton and the himation, the former being visible only on the left arm and shoulder, everything else being part of the himation (cf. e.g. Holwerda, *Jb. Arch. I.* 1904, pp. 10 ff.); (3) that there are two garments, the chiton and the himation, the skirt belonging to the chiton, and the himation consisting only of the upper piece fastened generally on the right shoulder and passing under the left arm (cf. e.g. Kalkmann, *Jb. Arch. I.* 1896, pp. 30 ff.; Lechat, *Au Musée de l'Acropole d'Athènes*, pp. 168 ff.; E. B. Abrahams, *Greek Dress*, pp. 87 ff.; and most recent writers on the subject).

² It is interesting to note in this connection that Solon found it necessary at the beginning of the sixth century B.C. to forbid women to go out with more than three garments (. . . ἐξιδίναί μὲν ἱματίων τριῶν μὴ πλεον ἔχουσας κελεύσας . . . Plutarch, *Solon*, XXI, 26).

³ In this short survey I have chiefly followed Lechat's description in his book *Au Musée de l'Acropole d'Athènes*, pp. 150 ff.

within a short distance of the upper corners to reserve openings for the insertion of the arms. The upper end was left open in the centre for the head, and was either sewn or fastened with brooches on the two shoulders and upper arms. Over this chiton was worn the himation. This seems to have consisted of a rectangular piece of woollen cloth draped round the body, starting from the right shoulder and passing across the chest and under the left arm so as to leave the left arm and breast uncovered. It was fastened with brooches on the right shoulder and upper arm to within a short distance from the corners, the rest of the material being allowed to hang loose on either side of the arm. The mantle was arranged in a series of broad, vertical or oblique folds, which were kept in place by a band running over its upper edge. Over this band some of the material was pulled up and allowed to fall like a sort of frill, which accounts for the uneven outline of the lower edge of the mantle.

Now to return to our statuette. The most glaring mistake is the rendering of the himation. Instead of making it pass round the figure front and back, the artist treated it merely as a sort of front panel terminated on both sides and not appearing at all at the back. This treatment results in a mass of contradictions:—

There is no clear boundary line between the chiton and the himation on the right arm, and when viewed in front the right sleeve appears to belong to the himation, while from the back it clearly is part of the chiton.

A slit running halfway down the chiton on the right side is a meaningless addition, presumably placed there as a sort of compromise, since this is the place where should have come the other edge of the himation.

A series of short oblique lines are punctured along the right side of the himation, which doubtless are meant to indicate the folds of zigzag outline formed by the loose material hanging right and left of the sleeves. As, however, no such loose material is represented in our statuette, the indication of these folds is inconsistent.

Besides these more obvious blunders there are several minor errors: The skirt when held up by the left hand and drawn tightly across the legs would naturally form a series of oblique

folds converging to the hand, and this is the way we find it represented on Greek figures. The maker of our statuette indicates these folds, but does not make them converge to the point from which the garment is pulled, thus losing their *raison d'être*. The chiton has of course a certain thickness, and must therefore be indicated as slightly raised above the skin. In our statuette, though rightly represented where it comes in contact with arms and legs, it is on one level with the neck, the edge being marked merely by incised lines. The result is decidedly confusing.

No attempt is made to represent the characteristic little folds on the upper part of the chiton, for the oblique wavy lines incised on the right side indicate the wrinkles caused by the insertion of the brooches to form the sleeve.

That the Etruscan artist succeeded sometimes in correctly representing the complicated form of himation which is here attempted, is shown by several specimens,¹ which, though of rough execution, at least carry the garment round the whole figure and thus preserve its inherent character of a mantle. It is therefore the more surprising that a maker who did so careful a piece of work as our figure should be so little conversant with what he was representing. The possibility suggests itself that he was copying from a vase-painting or from a relief, and being himself unfamiliar with the garment, naturally came to grief when he had to represent the back.

An examination of the treatment of the hair is also interesting in that it shows the same combination of success and failure. The arrangement chosen is that found on some of the Acropolis statues (cf. No. 671, Lechat, *op. cit.*, p. 153, Fig. 9), except for the omission of the locks falling in front. The hair is parted in the middle and combed to either side, presenting a wavy outline over the brow, and allowed to fall loose on the back. In addition, a strand of hair is carried forward from the top of the head, forming a long loop over each temple, and then brought back behind the ears. In our statuette these loops are not rounded off properly, but are represented as cut off sharp at their lower ends, which gives them the singular appearance

¹ Cf. *e.g.* Babelon et Blanchet, *Bronzes antiques de la Bibliothèque Nationale*, No. 206.

of separate tufts of hair. The general effect, however, is admirable; and especially at the back, where the hair hangs loose, it has a very lifelike appearance, the smooth, glossy surface being represented with quite extraordinary ability.

The delicately executed decorative borders on the dress, the fillet with the rosettes,¹ the necklace, and the rosette-shaped earrings,² all find analogies in Greek representations. The tassels at the ends of the himation are commonly found in representations of this garment on vase-paintings.³

Our analysis of this statuette discloses what from other sources we have been accustomed to regard as the characteristics of Etruscan art, — namely, great skill in the rendering of detail coupled with a curious lack of feeling for the structure of the whole; witness, for instance, the representations on the Etruscan chariot in the Metropolitan Museum. But that Etruscan art, imitative though it may be, and possessing the natural defects of all imitations, is not always lifeless and clumsy as we find it in so many of its products, but could attain real artistic merit, is seen by a few fine examples,⁴ among which this statuette will occupy a conspicuous place.

In conclusion a word must be said with regard to the interpretation of this figure. It is now pretty generally agreed that the Acropolis maidens represent neither a particular goddess nor a priestess, but a mere votary;⁵ for in no instance have these maidens any definite attribute which would allow of a more particularized identification. The case is similar here; because, though the object held in the right hand is missing, there can be no doubt that it was a fruit, flower, or

¹ Many of the fillets on the Acropolis statues are pierced, showing clearly that they were originally also decorated with ornaments. Cf. *e.g.* the figure by Antenor, and Nos. 670, 673, 675.

² Almost all the Acropolis maidens wear earrings of the same shape, hiding completely the lobe of the ear.

³ Cf. Furtwängler u. Reichhold, *Griechische Vasenmalerei*, I, pls. 16, 22, 43, 44, 46, 49, etc.

⁴ Such as Babelon et Blanchet, *Bronzes antiques de la Bibliothèque Nationale*, No. 213; Martha, *L'Art étrusque*, Figs. 338 and 339; Micali, *Monumenti inediti*, pl. XIII, 1, 2.

⁵ Cf. H. Lechat, *Au Musée de l'Acropole*, p. 276; E. A. Gardner, *Handbook of Greek Sculpture*, pp. 164 f.; etc.

animal, such as make up the offerings held by the statues. In the absence of further evidence, therefore, we must call this statuette simply a maiden, perhaps placed as a votive offering in some sanctuary.

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SAN SAVINO AT PIACENZA

I. HISTORY AND STRUCTURE

[PLATES V-VII]

THE church of San Savino at Piacenza cannot be said to be unknown, since it has occasionally been referred to by writers on the history of art, especially such of them as have occupied themselves with Romanesque mosaics. It is, nevertheless, a singular fact that this edifice, although situated in a city visited by great numbers of tourists and students, has not, up to the present, been given serious study. The passing notices which we find in the works of scholars of such standing as Venturi,¹ Strzygowski,² Dehio,³ and Ambiveri,⁴ either pass by in silence, or give actually misleading information upon the purely architectural features of the church. In the history of Lombard architecture, however, San Savino should occupy a place second to few if any other monuments. Not only is the church intrinsically of the greatest interest, but since it is authentically dated, it furnishes a central point of chronological support which makes it possible by the method of comparison to establish the epoch of other edifices, such as, for example, Sant' Ambrogio at Milan and San Michele at Pavia. Had the many

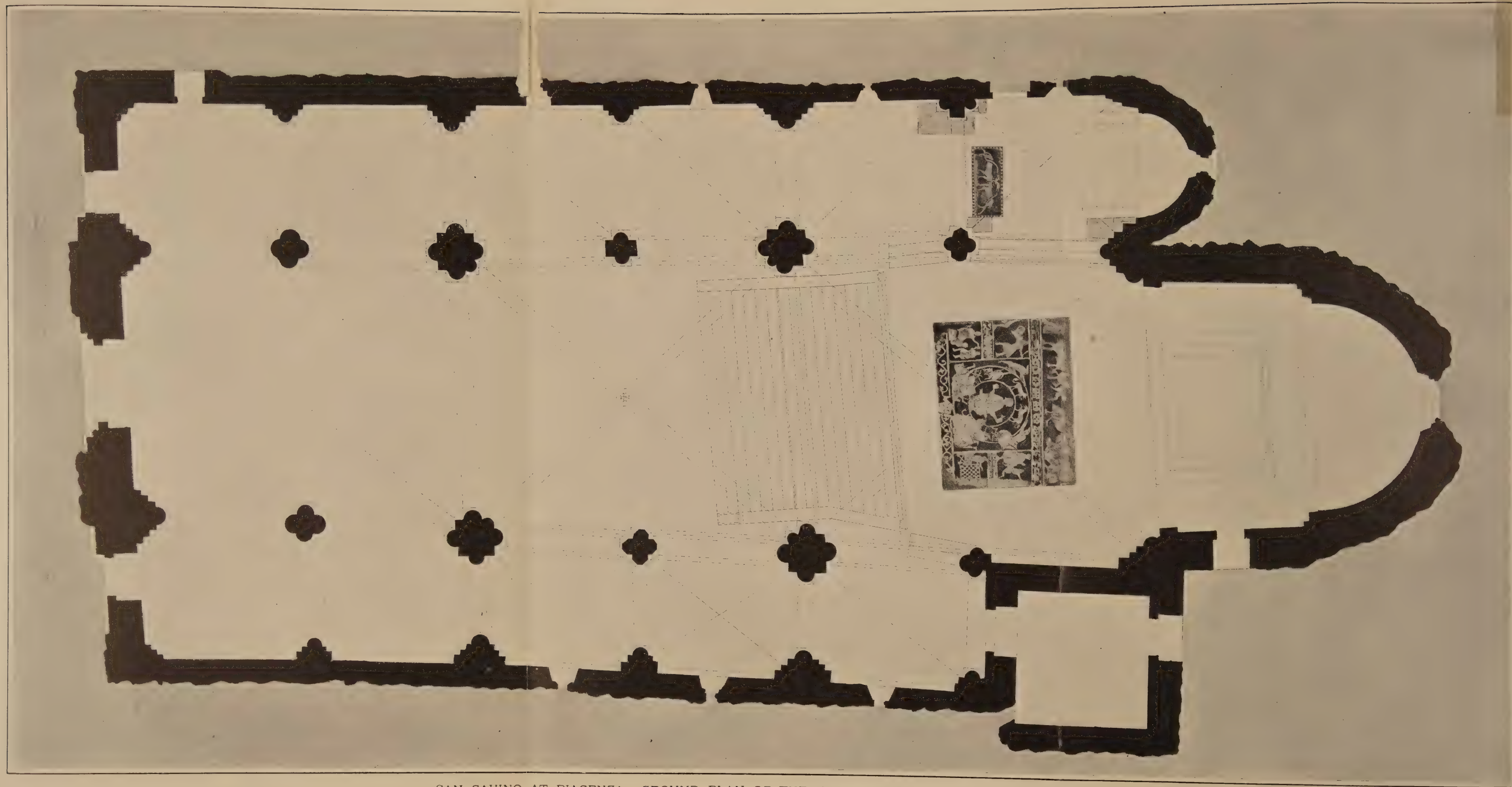
¹ A. Venturi, *Storia dell' arte italiana*. Milano, Ulrico Hoepli, 1901. 7 vols., 8vo. III, 427.

² Joseph Strzygowski, *Die Calenderbilder des Chronographen vom Jahre 354*. Jahrbuch des kaiserlich deutschen archaologischen Instituts. Ergänzungsheft I, 1888.

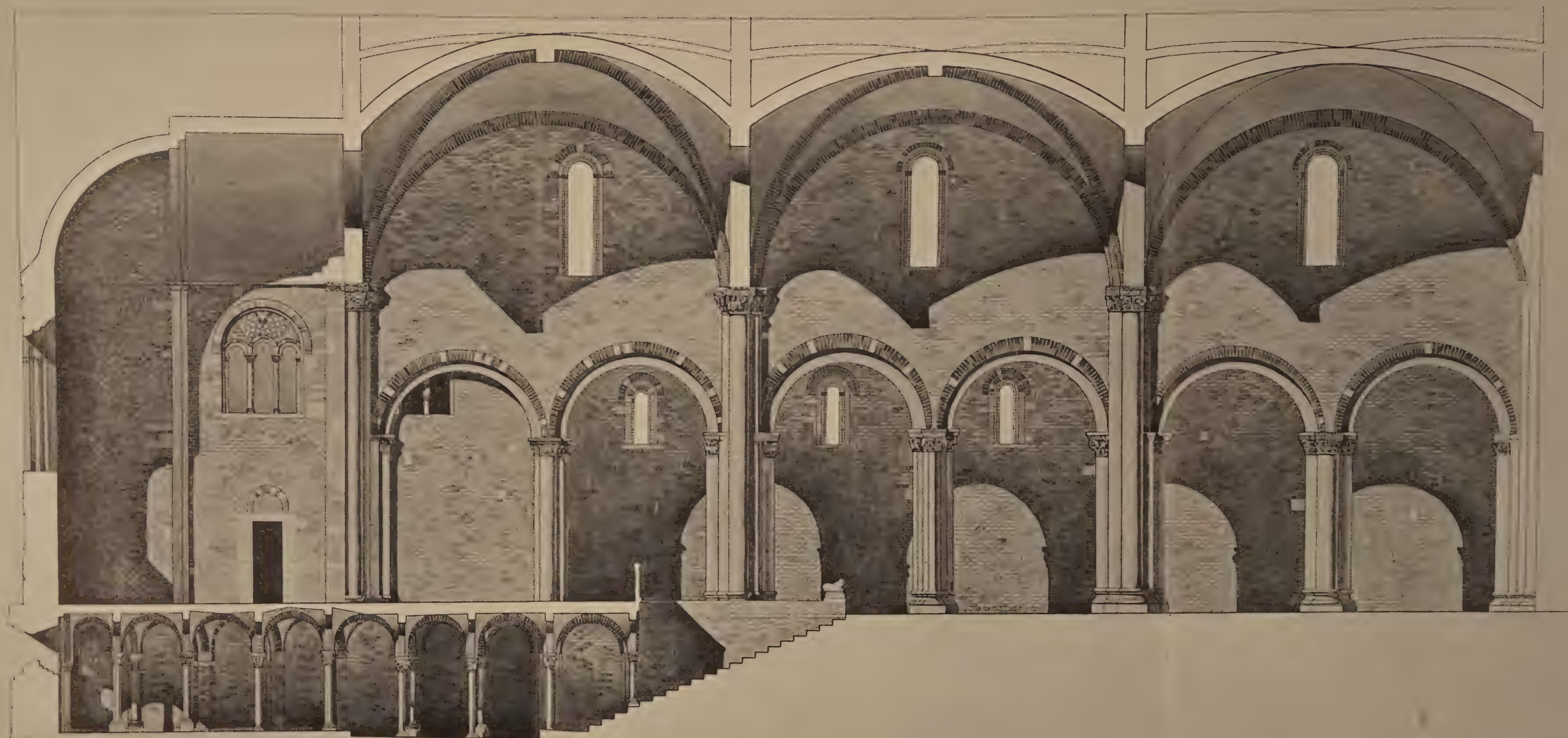
³ G. Dehio und G. von Bezold, *Die kirchliche Baukunst des Abendlandes*. Stuttgart, J. G. Cotta, 1892. Text in 4to, 2 vols. Atlas in folio, 4 vols. Taf. 163 a.

⁴ Luigi Ambiveri, *Monumenti ecclesiastici piacentini*. Piacenza, Bertola, 1888. Pamphlet. Estratto dall' Indicatore Commerciale del 1888.

American Journal of Archaeology, Second Series. Journal of the
Archaeological Institute of America, Vol. XVI (1912), No. 3.

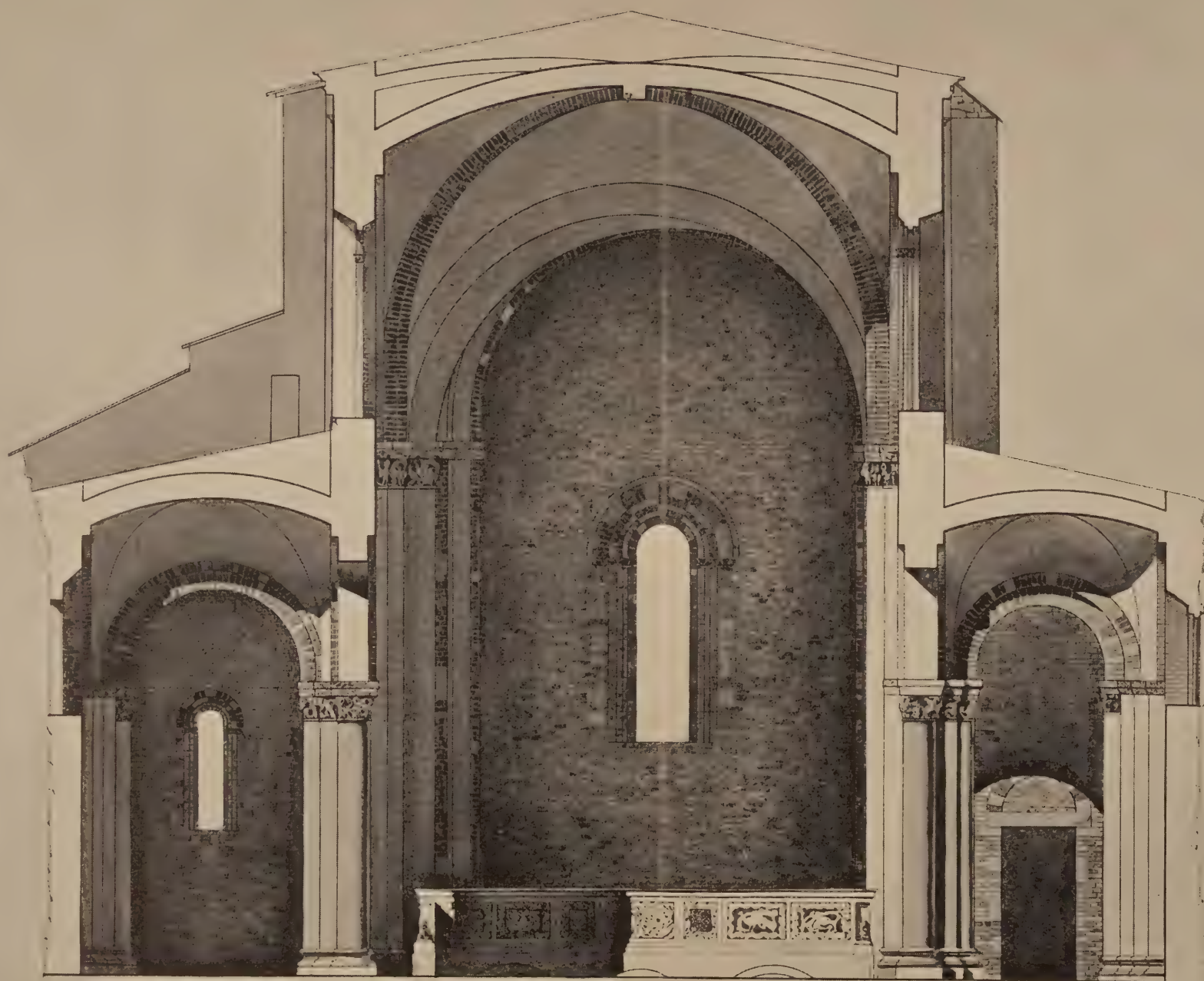


SAN SAVINO AT PIACENZA. GROUND PLAN OF THE CHURCH RESTORED (A. Covini, del.)



SAN SAVINO AT PIACENZA. LONGITUDINAL SECTION (A. Covini, del.)

The apse, the door and triforium of the choir, and the windows are modern. The original cells and the lines of the existing roof are indicated.



SAN SAVINO AT PIACENZA. TRANSVERSE SECTION OF THE CHURCH AS IT EXISTS TO-DAY (A. Covini, del.)
The apses, the choir rail, and the windows are modern. The cells of the original roof are indicated.

authors, who have been disputing for nearly a century upon the chronology of the Lombard style, taken the pains to study this church, lying, as it were, directly beneath their eyes, the controversy would have been decided long ago. It is unfortunately significant of the desultory and dilettante manner in which mediaeval archaeology has been too often pursued, that such a notable edifice, certainly entitled to rank among the most important examples of Romanesque architecture in northern Italy, has remained practically unknown.

A certain number of local scholars, it is true, have occupied themselves with San Savino. By all odds the most important publication on the church is the little book published at Piacenza (Stabilimento Tipografica Piacentino) in 1903 under the title *La Regia Basilica di San Savino*. This contains six separate monographs: *Memorie Critico-Storiche della Basilica di San Savino*, by D. Gaetano Malchiodi; *Iscrizioni Cristiane and Mosaici della Basilica di San Savino*, by G. Tononi; *L'Arte nel Crocefissio di San Savino*, by G. Ferrari; *Il Tabernacolo del 1510*, by Pietro Piacenza; and *I Restauri della R. Basilica di San Savino*, by Ettore Martini. This book is illustrated with thirty-four half-tones, several of which are of great value, since made from photographs taken before or during the restoration. The studies themselves are of varying merit, but in general contain little that is not found elsewhere. The account of the restorations by the engineer Martini is, however, important, since it contains descriptions of parts of the church which now no longer exist and a detailed analysis of the radical alterations carried out under the author's supervision. In the other monographs the student will find helpful notices only occasionally. The archaeological and artistic importance of the church has escaped all these authors, since they have mistaken the chronology of the building and have failed to place the monument in relationship with other examples of the Lombard style.

Of value chiefly for its illustrations in half-tone is the pamphlet on the capitals of San Savino by Dr. D. Gaetano Malchiodi.¹ The same writer has contributed a life of San Savino that contains some useful historical references and several half-tone

¹ Dr. D. Gaetano Malchiodi, *I Capitelli della Basilica di San Savino*. Piacenza, Favari, 1907.

illustrations of the basilica.¹ In the brief guide-book of Leopoldo Cerri² the history of the abbey is briefly summarized. Finally, the anonymous pamphlet entitled *Piacenza Monumentale*³ should be mentioned, since it contains a number of good half-tones taken from *La Regia Basilica*.

On the second respond of the southern side aisle, counting from the west, is an inscription stating that the church of San Savino was built by the bishop Everardo in the year 903; that in the year 1000 (*sic*) it was rebuilt by Bishop Sigifredo; that Bishop Aldo consecrated it on the 15th of October, 1107; that a thousand years after its first foundation the pious Prevosto Cassinario, finding that the architectural character of the building had suffered through barocco additions and that the edifice was threatening ruin, restored the church in its original (*sic*) form; and finally that Bishop Giovanni Battista (Scalabrini) celebrated the consecration on the 8th of November, 1903.⁴ This inscription, it is true, is no older than the restoration of 1903. It is here cited because it offers a convenient résumé of the history of the monument.

There is a tradition that San Savino, bishop of Piacenza, founded, a short distance outside the city, a church dedicated to the Apostles, in which he himself was subsequently buried.

¹ *San Savino Vescovo di Piacenza*. Piacenza, Tononi, 1905.

² Leopoldo Cerri, *Guida di Piacenza storica ed artistica*. Piacenza, Marina, s.d.

³ Piacenza, Foroni, 1908.

⁴ HANC DIVI SABINI AEDEM
AB EVERARDO EPISC AEDIFICATAM
ANNO CMIII
AB ANTISTITE VERO SIGEFRIDO
ANNO M ITERUM EXCITATAM
ALDUS CONSECRABAT ID OCT MCVII
MILLE A PRIMA FUNDATIONE
ELAPSI ANNI
EAMDEM IN PLURIBUS CORRUPTAM
ET IAM OCCULTE COLLABENTEM
ANTIQUAE SIMPLICITATI RESTITUIT
PIUS CASSINARIUS PREPOSITUS
CONSECRAVIT
IOANNES BATISTA EPISCOP
VI IDUS NOVEMBRIS MCMIII

In fact, in the *Chronicon Placentinum*¹ of Giovanni da Musso there is a remarkable passage to the following effect: "Constantinus and Opinianus, who were of Rome, built a church at Piacenza in honor of the Twelve Apostles. This church was consecrated by the blessed Bishop Savino. In it rest the bodies of the bishop and of five other saints. . . . Concerning this church others have written: I, Mauro, humble bishop in the reign of Lothaire, by order of the angels came to my own city and buried the body of Bishop San Savino on the 17th of January. I consecrated the altar in honor of him and Sant' Antonino on the 4th of February. I buried San Gelasio on the 6th of March. I buried San Vittorino the deacon . . . in May. I buried the body of San Donnino the deacon on the 23d of December. The blessed virgin Vittoria departed this life; after their death, Mauro, the bishop, lived six years. I, Abbot Ephrem, buried his body next to the body of San Savino, at the left, and wrote this with my own hand, and placed it here. I come not to break the law, but to fulfil it. No one shall be crowned except him who has fought the good fight. The year of the incarnation of Christ, 447." Then follows what we learn from another text which will be cited below to be an epitaph on the tomb of the saint: "Savino, a man of sanctity and righteousness, founder of this monastery, rests for eternity at the feet of the saints. His body is worthy of being placed beside those of the Apostles, for his faith was like theirs." The chronicler resumes: "These very old writings, which can with difficulty be read, are found in a certain very old book in the church of San Savino at Piacenza. The relics of the saints referred to were buried in the old church of San Savino at Piacenza, that is, the church which the bishop Savino consecrated in honor of the Twelve Apostles."²

¹ Ed. Muratori, *R.I.S.* XVI, 620.

² Constantinus & Opinianus, qui de Roma fuerunt, aedificaverunt Ecclesiam unam in Placentia ad honorem duodecim Apostolorum, quam consecravit Beatus Antistes Sabinus, cujus corpus hic requiescit, cum quinque corporibus Sanctorum. . . . De ista Ecclesia & alii. *Ego Maurus humilis Episcopus de Lothario Regno, & propter Angelicam jussionem veni ad propriam Civitatem, & sepelivi corpus Sancti Sabini Episcopi XVI. Kal. Februarii. Istud Altare ego consecravi in suum honorem, & Sancti Antonini Martyris Pridie Nonas Februarii. Sanctum Gelasium sepelivi Pridie Nonas Martii. Sepelivi corpus*

Giovanni da Musso was an author who lived in the fifteenth century. His notices, although taken, as he asserts, from a very old manuscript, offer so many difficulties that they are open to the suspicion of being forgeries, perpetrated at an early date, possibly with the purpose of authenticating spurious relics. Thus the document is dated in the year of the incarnation of Christ, 447; but, in the first half of the fifth century, the year was always denoted by the names of the consuls. Furthermore, the emperor Lothaire is spoken of as living at that time, whereas, in fact, he was not born until over three hundred years later. Finally, to pass by many minor inconsistencies, an abbot of San Savino is mentioned in a document purporting to be of the fifth century, when, as we shall presently see, the abbey was not established until the tenth century.

However, the good faith of Giovanni da Musso himself is not to be doubted, and we are fortunately able to prove that he has quoted his sources exactly, since the manuscript to which he refers is still in existence and has been studied by Poggiali.¹ This manuscript, which was written in 1253 by a certain Ruffino, monk and *Carmarlingo* of the monastery of San Savino, contains an index or catalogue of the manuscripts which the archives possessed at that time. After the catalogue, begins a history of the monastery. "The church of San Savino," he says, "was founded in the year 423, and was, at first, situated in the fields outside of the city of Piacenza. This I found

Sancti Victorini Diaconi. . . . Idus Madii. Recondivi corpus Sancti Donini Diaconi X Kalend. Januarii. Migravit de hoc seculo beatissima Virgo Victoria; post obitum eorum vixit Maurus Episcopus annis VI. Ego Abbas Ephrem sepelivi corpus ejus juxta corpus S. Sabini in sinistram partem, & scripsi mea manu & condidi hic. Non veni legem solvere, sed adimplere. Nemo coronabitur nisi qui legitime certaverit. Anno Incarnationis Christi CCCXLVII.

"Has aedes condens sacra virtute Sabinus
Sanctorum pedibus junctus requiescit in aevum
Dignus Apostolica sociatus corpore sede."

Haec scriptura multum vetustissima reperitur in quodam Libro maximè vetustissimo in Ecclesia S. Savini Episcopi Placentiae, quae vix potest legi. Hae Reliquiae Sanctorum reconditae erant in Ecclesia veteri S. Savini Episcopi Placentiae, quam dictus Antistes Savinus in honorem duodecim Apostolorum consecravit.

¹ Christoforo Poggiali, *Memorie storiche della città di Piacenza*. Piacenza, F. G. Giacomazzi, 1757-1766. 12 vols. 4to. II, 55-75.

written in a certain privilege almost illegible because of its great age, so that I could with difficulty make out what I was seeking. But I did find who were its founders and whence they came, since it is written in a certain very old martyrology that there were two men, illustrious for their wisdom and goodness, excellent for their sanctity and religion, who came from the city of Rome; one was called Constantinus and the other Opinianus. They founded a church situated, as has been said, in the fields outside the city of Piacenza and dedicated to the Twelve Apostles. This church that they built was large and splendid, as may be gathered from what is written in a certain privilege of the blessed Everardo, bishop of Piacenza. This was the church dedicated by San Savino, and here the blessed Mauro buried solemnly the body of San Savino, after the death of the latter. In after years, by the grace of divine mercy, innumerable concessions and gifts and many privileges were bestowed upon this church by the popes of the Holy Roman Church and by Catholic emperors. But of these diplomas I cannot give an account; for, about the year 902, pagans, enemies of the Cross of Christ, came and devastated whatever they could lay their hands upon that was outside of the city of Piacenza, and in their tyrannous rage mercilessly slew men. These hordes completely destroyed the church of San Savino, which had at first been consecrated in honor of the Twelve Apostles. The above facts are related by Sant' Everardo, an illustrious bishop of Piacenza, who labored with all his might to build anew the monastery in which I am."¹

¹ *Fuit enim primo constructa Ecclesia Beati Savini in Campanea Placentina in prima fundatione sui CCCCXXIII a Christi Nativitate, secundum quod reperi in quodam Privilegio nimia vestustate consumpto, ita quod vix in eo potui deprehendere quod quaerebam. Sed & Fundatores qui fuerunt, & unde originem duxerint reperi, scilicet in quodam vetustissimo Martyrologio, quod fuerunt duo viri sapientia & bonitate praeclari, sanctitate & religione ornati de Civitate Romana. Unus vocabatur Constan. & alius Opinian. Fundaverunt enim primo, ut dictum est, quamdam Ecclesiam in Campanea Placentina ad honorem Dei, & XII. Apostolorum, & fecerunt eam mirae magnitudinis, secundum quod in quodam Privilegio D. Enurardi Episcopi Placentiae continetur; quae consecrata fuit per Beatissimum Savinum Episcopum Placentiae; in qua Ecclesia Beatissimus Maurus corpus S. Savini post mortem ejusdem canticis sepellivit. Inde factum est, divina suffragante clementia, quod eidem Ecclesiae innumerabiles concessionones, & offeriones, & multa privilegia a summis Pontificibus S. R. E.*

The covers of this document are formed of two manuscripts, — one, a ritual, the other, a memorandum of the consecration of the new church of San Savino, and of the relics which were deposited in that edifice. The latter, also published by Poggiali,¹ reads as follows: “The church of the bishop and confessor San Savino was dedicated in October, 1107. These are the relics there placed: first, under the principal altar, the body of San Savino Confessor.”² Then follows a long list of relics, after which the manuscript continues: “This church [Mosia has been added above in a later hand] was built by the Romans Constantinus and Opinianus, in honor of the Twelve Apostles. The blessed bishop, Savino, whose body rests there together with the bodies of five other saints, consecrated it.”³ After another list of relics, the manuscript resumes: “Near by is another tomb where lie three virtuous monks, Luca, Ambrogio, and Privato; elsewhere is the tomb of the abbot Vittorino and others.”⁴ Then follows the same passage quoted by Giovanni da Musso, with indeed a few verbal differences, but not such as throw any light upon the difficulties of chronology. Thus Mauro is spoken of as the last (*ultimus*) bishop of the reign of Lothaire, instead of as “humble” (*humilis*) bishop.⁵

& a fidelibus Imperatoribus sint collata, de quibus mentionem facere non potero. Tempore enim quo currebat DCCCCII, venerunt Pagani, & inimici Crucis Christi, & destruxerunt, & comburerunt quicquid repperunt extra Placentinae moenia Civitatis, tyrannica rabie, hostili gladio humana corpora trucidantes; & tunc cremaverunt, & destruxerunt penitus Ecclesiam Beati Savini, quae in honorem XII Apostolorum fuerat primitus consecrata. Et praedicta narrata inveniuntur per D. Enurardum egregium Praesulem Placentinum, qui totis viribus studuit istud Monasterium, in quo sum, de novo videlicet fabricare.

¹ *Ibid.*

² *MCVII de Mens. Octob. dedicata est Ecclesia B. Savini Episcopi, & Confessoris. Hae sunt Reliquiae ibi positae. Primo in Altare Majori est Corpus B. Savini Confessoris, etc., etc.*

³ *Istam vero Ecclesiam (Moxiarum evvi scritto di sopra, ma da penna più moderna) aedificaverunt Constantinus & Opinianus, qui de Roma fuerunt, ad honorem XII Apostolorum, quam consecravit Beatiss. Antistes Sabinus, cujus Corpus hic requiescit, cum quinque corporibus Sanctorum.*

⁴ *Ad latera eorum alium sepulchrum, ubi requiescunt tres Monachi Religiosi, idest Luca, Ambrosius, & Privatus. In alia cuba, contra nullam horam (sic), sepulchrum Abbatis Victorini de ista Ecclesia, & alii.*

⁵ I give this text, as cited by Poggiali, entire for purposes of comparison with the text of Giovanni da Musso quoted above: *Ego Maurus ultimus Episcopus de Lothario Regno, & propter angelicam visionem veni ad propriam Civitatem,*

But these are not the only copies of the mysterious notice that have come down to us. Another, recording precisely the same things in the same words, is said by Poggiali to exist in one of the two *Vetutissimi Necrologii* of the archives of the monastery, and still others are extant in various other manuscripts. Certain of these have been stated to be as old as the tenth century, but Poggiali, who appears to have made a careful study of the subject, believes that none can be assigned to so early an epoch. At any rate, it is clear that the notice was fabricated before 1253, when Ruffino, whose good faith there seems to be no reason to doubt, read it in a manuscript which he asserts was very ancient. At whatever date this false notice was concocted, it is entirely probable that it preserves for us, mixed with fictions, an authentic tradition, viz., that the body of San Savino was buried in a church in the suburbs of Piacenza in a spot known as Mosia. As for the date 423 when, according to Ruffino, the church was founded, the saint was at that time certainly dead, although the year of his decease is somewhat doubtful. If, therefore, the church of the Apostles was built during his pontificate, as seems probable, it must have been founded somewhat earlier than this.

This same tradition is echoed in another notice, probably also inexact, but which seems to be derived from an independent source. The *Chronica Episcoporum Placentinorum* states: "Savino built outside the city a wonderful monastery (*sic*) which afterwards was entirely destroyed and everything belonging to that monastery was transferred to the basilica of the Twelve Apostles by San Mauro, his successor. The latter buried there San Savino as well as Eusebio, Donnino, Vittore, Gelasio, and Vittoria."¹

& sepellivi Corpus S. Sabini Episcopi XVI. Kalend. Februar. Istud Altarium ego consecravi in suum honorem, & S. Antonini Martyris. Pridie Non. Febr. Sanctum Gelasium sepellivi. Pridie Non. Martii sepellivi Corpus S. Victoris Diaconi. Idus Maji recondivi Corpus Domini. X Kal. Jan. migravit de hoc saeculo Beatissima Victoria. Post obitum eorum vixit Maurus Episcopus Annis VI. Id. Septemb. migravit. Ego Abbas Ephrem sepellivi Corpus ejus, juxta Corpus S. Sabini in sinistram partem, & scripsi manu mea, & condivi hic. Non veni legem solvere, sed adimplere. Nemo coronabitur, nisi qui legitimè certaverit. Epitaphium supra tumba S. Sabini. Has Aedas condens sacra virtute Sabinus, Sanctorum pedibus junctus requievit in aevum, dignus apostolica sociatus corpore sede.

¹ Hic (Sabinus) aedificavit extra Civitatem mirabile Monasterium, quod postea

That the church of the Apostles was destroyed in 903, is known not only from the passage from Ruffino quoted above, but, happily, from the original charter of Everardo, which is still extant, and has been published by Campi.¹ In this charter the bishop states² that he and his chapter had unanimously vowed "to erect a monastery in the church of San Savino, the Confessor of Christ, which is situated not far outside the walls of the city." He goes on to relate: "While we were desiring with fervent love to fulfil this vow, there came, alas! the miserable and horrible race of unhappy pagans, who slew men with their swords, and burned with the fire of their fury the churches of God, and in particular that church of San Savino. Subsequently, we began to consider often and diligently how to avoid breaking our vow, and we earnestly sought another site for the monastery. By the Grace of God, our search was rewarded and we found a suitable and fitting place within the walls of the city in a field which we had acquired justly and legally; and there we erected a church from its foundations, in the name of God for the honor of God and San Savino, and there we instituted monastic discipline. . . . Therefore, we give the said field to the new church of San Savino." The deed was dated March 30, 903.³ From this authentic docu-

penitus destructum est, & omnia illius Monasterii fuerunt translata in Basilicam duodecim Apostolorum à Beato Mauro successore suo, qui corpus ejus sepelivit cum infrascriptis corporibus videlicet; Eusebium, Doninum, Victorem, Gelasium, & Victoriam. (Ed. Muratori, *R.I.S.* XVI, 627.)

¹ Pietro Maria Campi, *Dell' historia ecclesiastica di Piacenza*. Piacenza, Giovanni Bazachi, 1651. Folio. 3 vols. I, 478.

² Quapropter pari voto, parique consensu statuimus Monasterium aedificare monasticum in Ecclesia B. Sauini Confessoris Christi sita haud procul foris Ciuitatis murum. . . . Haec itaque vota dum feruenti amore cuperemus explere (heu pro dolor) superuenit misera, horrendaque gens infelicium Paganorum, qui hostili gladio corpora trucidantes, igneq; furoris Ecclesias Dei cremantes concremauerunt pariter praefatam B. Sauini Ecclesiam. Postea denique caepimus frequenter, sedulèq; tractare, quatenus nostrum non cassetur votum; alterum diligenter requisiuimus situm. Quaesiuimus igitur, & miserante Deo inuenimus habilem & congruum locum infrà Ciuitatis moenia in nostro scilicet praedio iustè, & legaliter acquisito; ibique in Dei nomine Ecclesiam ad honorem Dei, & S. Sauini à fundamentis construximus, atq; officinas monasticas ibidè ordinauimus. . . . Quo circa praedictum praedium nostrum ad eandem nouam S. Sauini Ecclesiam tradimus.

³ Regnante D. Berengario gratia Dei Rege anno regni eius in Dei nomine sextodecimo, tertio Kalen. Aprilis indictione sexta.

ment it is evident that anterior to the destruction by the Hungarians, there was no monastery connected with the church. The charter of Everardo seems to imply that in 903 the new church was already erected. Certain relics, however, were not translated until some years after this, for the *Chronica Episcoporum Placentinorum* states: "Conrad was elected bishop of Piacenza in the year of our Lord 912. He translated the bodies of the saints Vittore, Donnino, Gelasio, and Peregrino into the crypt of San Savino."¹ At any event, the building erected in the early years of the tenth century seems to have been hastily and poorly constructed (as, indeed, the misfortunes of that unhappy age may well have necessitated), since a century later the church was rebuilt. This fact is recorded by two late chroniclers: Giovanni da Musso, who states that "in the year of Christ 1005 the monastery of San Savino was rebuilt without the walls of the city of Piacenza by Sigifredo, bishop of Piacenza";² and the author of the *Chronica Episcoporum Placentinorum*: "Sigifredo was elected bishop of Piacenza in the year 997. He sat twenty-two years. . . . He built a wonderful monastery in the city of Piacenza in honor of San Savino."³

That the church was again rebuilt at the end of the eleventh century and consecrated in 1107 is known from three sources. First, the manuscript in the archives described by Poggiali and already cited above, gives us the exact year of the consecration, October, 1107. Secondly, the same *Chronica Episcoporum Placentinorum* we have already often quoted, adds the name of the bishop who consecrated the church: "Aldo was elected bishop of Piacenza in the year 1103, and sat eleven years; he consecrated the church of San Savino."⁴ Thirdly, a text of Giovanni

¹ Conradus eligitur Episcopus Placentinus Anno Domini DCCCCXII. Hic corpora SS. Victoris, Donini, Gelasii, & Peregrini recondidit in inferiori Ecclesia S. Sabini. (Ed. Muratori, *R.I.S.* XVI, 629.)

² Anno Christi MV. Monasterium S. Savini fuit reaedificatum extra muros Civitatis Placentiae per Sigifredum Episcopum Placentiae. (Johannis de Musis, *Chronicon Placentinum*, Ed. Muratori, *R.I.S.* XVI, 451). The charter of Everardo states distinctly that the church was *within* the walls of the city.

³ Sigifredus electus fuit Episcopus Placentinus Anno Domini DCCCCXCVII. Hic sedit annis XXII. . . . Monasterium mirabile in Civitate Placentiae in honorem S. Sabini aedificavit. (Ed. Muratori, *R.I.S.* XVI, 630.)

⁴ Aldo fuit electus Episcopus Placentinus Anno Domini MCIII. seditque annis XI. . . . Hic consecravit Ecclesiam S. Sabini. (*Ibid.* 630.)

da Musso states that "in the year 1107 the monastery of San Savino was consecrated by Lord Aldo, bishop of Piacenza."¹ That the consecration took place on the 15th day of October, is added by Campi² and Poggiali.³ Whence these authors derive this additional piece of information I do not know, but suspect that they may have had under their eyes a fourth notice of the consecration of 1107, of which I can find no trace. In any case the texts already cited are sufficient to establish the fact that the church was dedicated in that year.

The remaining history of the monastery may be briefly resumed. Endowed with more than the usual number of possessions and worldly goods by various pious benefactors, it became extremely wealthy and powerful. The vast extent of its lands is evident from the Bull of Innocent II. of *ca.* 1132.⁴ Later, like most of the Italian monasteries, San Savino fell into decline. At the end of the fifteenth century the church was completely restored by Ruffino di Lando, in a style very different from that of the early twelfth century, which it had doubtless preserved up to that epoch. This is recorded by an inscription, still extant in the church, that has been published by Ambiveri⁵ and Malchiodi.⁶ This re-building was doubtless occasioned by the fact that in 1495 the same Ruffino di Lando, who was the Commendatory Abbot, had dismissed the Benedictine monks, and installed instead monks of the order of St. Jerome. Gregory XIII, by a Bull⁷ dated from Frascati on May 19, 1579, suppressed the Abbey and Commend and forbade the use of the insignia of abbatial dignity in the church. The monks of St. Jerome, however, still remained there until 1810.⁸ In 1631 the ancient apse was replaced by a new choir, and in 1687 the nave was being covered with barocco stuccos. Chapels in the same style were added to the side aisles.

¹ Anno MCVII. Consecratum fuit Monasterium S. Savini à Domino Aldo Episcopo Placentiae. (*Ibid.* 452.) The same author records the consecration of 1107 a second time. (*Ibid.* 621.)

² *Op. cit.* I, 378.

³ *Op. cit.* IV, 58.

⁴ Published in part by Poggiali, IV, 120.

⁵ Luigi Ambiveri, *Dei principali errori detti intorno ai monumenti piacentini*. Piacenza, Gregorio Tononi, 1887. Page 34.

⁶ *La Regia Basilica*, p. 31.

⁷ Poggiali, *op. cit.* X, 197.

⁸ Ambiveri, *Monumenti*, p. 18.

The Lombard edifice disappeared beneath a coating of intonaco, although some portions of the twelfth century edifice always remained visible. The mosaics of the crypt were described by Campi in 1651; this author saw in the nave a mosaic representing a labyrinth which no longer exists. In the view of the façade printed by Poggiali in the middle of the eighteenth century there is visible, it is true, no trace of twelfth century architecture, but Ambiveri, writing in 1888, speaks of the church as still preserving its Romanesque pilasters and crypt. However, he states that the pilasters had been stripped of their barocco intonaco during the nineteenth century.¹ Not until the recent radical restoration of 1902-1903, was the interior of the church completely freed of its Renaissance embellishments.

The church consists at present of a nave of three double bays, two side aisles, a rectangular choir, and an apse (PLATE V). The northern side aisle terminates in an absideole, while the southern is cut short by the campanile which rises in the easternmost bay. Before the recent restoration there were numerous barocco chapels, but all except two have been removed. The nave is covered

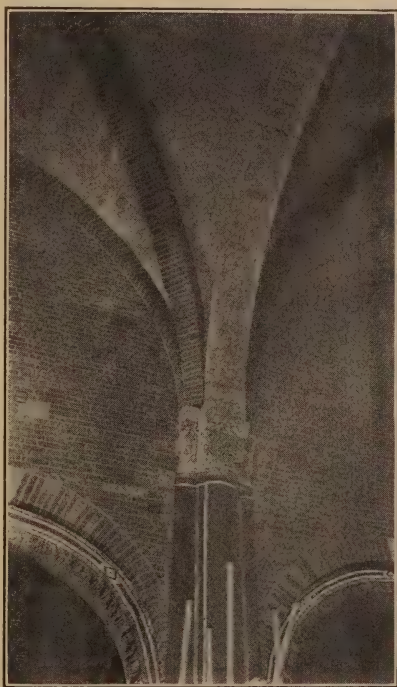


FIGURE 1. — DETAIL OF CLEARSTORY ABOVE THE EASTERNMOST ALTERNATE PIER ON THE NORTH SIDE OF THE NAVE.

with rib vaults in its two easternmost bays, by a groin vault in its westernmost bay; the choir has a barrel vault, the side aisles and crypts groin vaults throughout.² There is no tri-

¹ This was done in 1855, according to Malchiodi, *Capitelli*, p. 3.

² Three vaults of the side aisles have been rebuilt. (Martini, in *La Regia Basilica*, p. 59.)

forum gallery, but a high clearstory. The supports of the nave are alternately heavy and light (PLATE VI). On the heavier piers is engaged a system of three shafts, which is carried through the capitals of the piers and receives the ribs of the vaulting (Fig. 1). In front of the church is a narthex in the barocco style, which probably replaces a destroyed narthex of the twelfth century. The ancient façade is still

marred by barocco intonaco, but it is clear that it was raised above the roof lines so as to mask the true form of the section of the church.

The campanile is older than the rest of the edifice. This is evident not only from its position, since it cuts off the southern side aisle, which is, as it were, built around it (PLATE V), but from the fact that one of its windows, which must have opened outside formerly, now looks into the interior of the church and is cut across by one of the arches of the main arcade (Fig. 2). This campanile contains in its lower story a very slightly domed groin vault. The upper part of

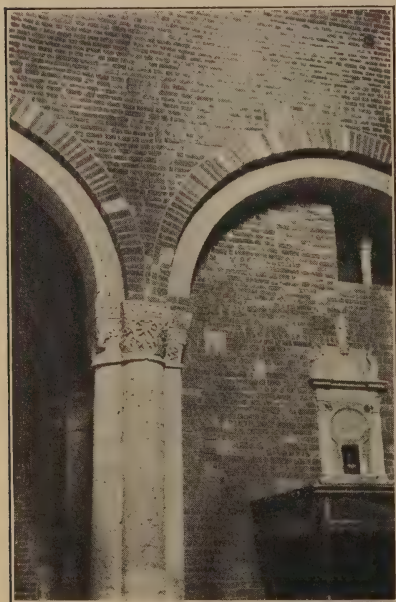


FIGURE 2.—EASTERNMOST PIER ON THE SOUTH SIDE OF THE NAVE; SHOWING BASE AND PRE-EXISTING CAMPANILE.

the tower has unfortunately been entirely denatured in the time of the Renaissance.

The groin vaults of the crypt are supplied with transverse and longitudinal arches, but doming is avoided, probably because the builders did not wish to raise higher than necessary the floor of the choir (PLATE VI). This crypt of San Savino is extraordinary in that it is placed entirely below the level of the church; I mean to say that the choir floor over it is hardly raised above the level of the nave. Raised choirs are characteristic of Lombard edifices of the eleventh and twelfth centuries,

and it is necessary to go back to early Christian or Carlovingian monuments, such as San Salvatore at Brescia, to find an example of a crypt thus sunk, like a cellar, below the level of the church. In the eighteenth century the crypt was enlarged by the addition of a new bay to the westward; in the restoration of 1903 this bay was removed and the existing stairway was erected.

The groin vaults of the side aisles are domed and supplied with transverse and longitudinal arches (PLATE VII). Of similar type is the groin vault of the westernmost bay of the nave (PLATE VI). The rib vaults of the eastern bays of the nave have square diagonals of brick and are also highly domed. The present choir is largely, and the apse entirely, modern, but the latter has been restored on the traces of the old foundations, which are still visible in the exterior of the east walls. The doorway and trifora on the south side of the choir are modern, but the barrel vault over the choir is ancient (Fig. 3). The foundations of an ancient apse, antedating the one on the foundations of which the existing modern apse has been built, were discovered during the restoration of 1903, beneath the present choir. It was therefore inferred by the restorers that the church originally terminated in an apse, placed where is now the choir; and that the choir and apse, upon whose foundations the existing ones were erected, were substituted, at a later date, for this original apse. Most unfortunately no photographs or measurements were made of the foundations, nor has the quality of the masonry been described. It is consequently impossible to judge of the date or of the significance of these remains, which have been covered up. However, the apse built upon the plan on which the present one was constructed, was contemporary with the existing church, as is proved by the quality of the little ancient masonry belonging to it that still survives. The earlier apse must therefore have belonged to an earlier building, not improbably to that of 1005.

An act of unpardonable vandalism on the part of the restorers was the destruction of the ancient roof of the church, a monument of the greatest archaeological and technical importance, and unique in Lombardy, if not in Europe. From what is told me by persons present in the church during the restoration and

by Signor Martini, it is clear that there was erected above the vaults of the nave a series of lesser vaults, superimposed one upon the other, and worked to the form of a gable, on which tiles were laid directly.¹ In the sections (PLATES VI and VII) I have attempted to indicate the structural principles on which this remarkable roof was erected and the lines of the principal vaults. This restoration, however, is frankly hypothetical in several details. The smaller, upper vaults I have not even attempted to restore, owing to complete lack of evidence of their dispositions.

This roof of San Savino is of significance for the history of art. Instances are numerous in which the Lombard builders attempted by various expedients to reduce the use of timber in their roofs. In fact, rib vaults were adopted, as I have shown in my monograph on the subject,² solely with the view to economizing wood. Domed groin vaults had been constructed in Italy ever since the Byzantine period, with the aid of the very flimsiest sort of centring in wood, consisting merely of two moulds following the lines of the diagonals and of a movable cerce. To erect a groin vault over a large area, such as a nave, with so light a centring, overtaxed the daring and ability of the early architects. They consequently substituted for light wooden arches following the lines of the groin a heavier, more substantial arch in brick, which served as a permanent centring on which the vault could be erected with the aid of a cerce. Hence the rib vault. The church of San Savino offers a curious demonstration of the fact that the rib vault was considered thus merely as a structural makeshift. In the two eastern bays, which, as we shall presently see, were the first erected, ribs were used; in the later western bay, the architect seems to have felt himself able to construct a groin vault even without the use of ribs, and accordingly immediately abandoned them. To dispense with wood still further, he avoided using timbers in constructing a roof to cover his vaults, but placed there instead the series of vaults already described. By means

¹ Martini (in *La Regia Basilica*, p. 60) has written a brief description of this roof and has published the only photograph made of it before its destruction.

² *The Construction of Gothic and Lombard Vaults*. New Haven, Yale University Press, and Oxford, Henry Frowde, 1911.

of this clever device he was enabled to place the roof tiles on his edifice without using a single stick of timber. There are extant numerous other Lombard edifices in which roofs were constructed entirely without wood. Usually in such cases, however, as at Santa Annunziata of Corneto, or San Fedele of Como, a solid bed of mortar is laid on top of the vaults, and on top of this bed of mortar the tiles are placed. The arrangement at San Savino was infinitely more ingenious. By a series of vaults the weight of the mass imposed upon the roof was vastly lightened, a sort of porous construction of hollow cells being substituted for a solid mass of masonry. Moreover, these cells were very cleverly disposed, so that their weight fell principally either upon the transverse arches or upon the outside walls, and thus did not charge unduly the great vaults underneath. This ingenious roofing, without any doubt, was contemporary with the original construction of the church. The vast quantity of material removed from this roof when the cells were demolished during the recent restoration was for the most part employed to construct the new walls and especially those of the side aisles. I was fortunate in discovering, however, in a yard back of the church, a pile of bricks which the sacristan assured me had formed part of the demolished roofing. These bricks were certainly of *ca.* 1100, and hence contemporary with the bricks employed in the main body of the edifice.

The main vaults of the nave are reënforced at present somewhat irregularly by salient buttresses and at times by transverse walls raised upon the transverse arches of the side aisles (PLATE VII). They have been more or less changed, but appear never to have been regular or symmetrical.

The section of the piers shows considerable variation, as may be seen in the plan (PLATE V). In some cases polygonal members are introduced. The responds of the side aisles, like the piers of the nave, are alternately heavier and lighter.

Tie-rods in metal, traces of which were found during the restoration, were used to neutralize the thrust of the arches of the main arcade.

The church is constructed of bricks in which are inserted stone trimmings and occasionally blocks of stone placed irregularly in the wall. The bricks are comparatively small, of vary-

ing thickness, and evenly laid in horizontal courses. The great majority was new, but some second-hand ones were employed. Occasionally herring-bone courses are inserted; often the bricks are laid with their small ends exposed. At times the courses are broken by bricks placed vertically or in triangular patterns. All the bricks are incised with herring-bone lines. This cross-

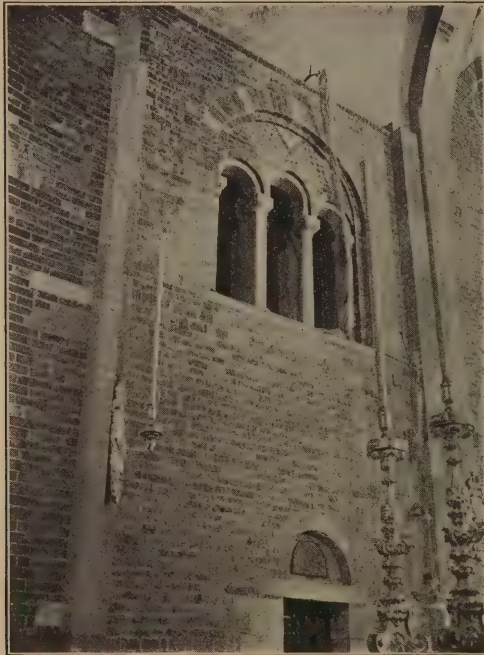


FIGURE 3.—SOUTH WALL OF CHOIR; SHOWING BARREL VAULT AND FRAGMENTS OF ANCIENT MASONRY.

(The doorway and triforium are modern.)

hatching is a characteristic of Lombard bricks, and was purposely done to afford a key for the intonaco with which the walls were completely covered. Lombard bricks were made by hand, not in a mould, hence is to be explained their extraordinary variety of size and shape. Incised lines were scratched on the clay when it was still soft and wet and before it was baked. Since the bricks were not made for any special position, it was found convenient to incise more than one side, so that the bricklayer could place them as they happened to fit in.

This explains why we sometimes find the incised side of a brick placed towards the interior of the wall and even incised bricks embedded in solid masonry. During the restoration traces of the ancient frescoes with which the walls were doubtless once entirely covered came to light, but were not preserved. In the narthex are two frescoes in good preservation, but they are not very ancient, being dated 1350 by an inscription.

The masonry of the campanile has been so thoroughly restored that it is impossible to judge of its original character.

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NEW YORK.

WHO BUILT THE ARCH OF CONSTANTINE? ITS HISTORY FROM DOMITIAN TO CONSTANTINE

HARDLY anything might seem more audacious than to deny that the arch of Constantine was built in honor of that emperor; yet the really amazing thing is our failure to attend to the numerous hints that this arch had existed long before Constantine. Artists and archaeologists have always been unable to explain how an architect of the decadent age of Constantine could have given to this arch its marvellous proportions and silhouette, which set it above all other arches, even those of the golden age (Fig. 1). Historians have been puzzled by the silence of that early catalogue of the buildings at Rome, the *Notitia*, issued before Constantine's death (334 A.D.), which assigns to Constantine, apparently, only the Janus in the Forum Boarium. The same *Notitia* increases the mystery by speaking of an *Arcus Novus* on the Via Lata, which can only be the arch of Diocletian, dedicated in 303. If in 334 the arch of 303 was still the latest of triumphal arches, how could an arch have been built to Constantine in 315? Besides, a student of Roman law would argue that it was against the unbroken tenets of tradition and law to erect such an arch to an emperor who had not actually been decreed a triumph and whose victories had been not over a foreign but over a domestic foe. According to ancient literature and law, therefore, there was not and could not have been a triumphal arch of Constantine, in the sense that it was built expressly for Constantine. It is quite different if the arch could be recognized as an already existing arch rededicated in his honor.

It is my expectation to prove in this paper that the arch was built long before Constantine; also to show that its construc-

tion should probably be ascribed to the Emperor Domitian, shortly before or after 90 A.D., some 225 years before the dedication to Constantine. After the assassination of Domitian, his *memoriae damnatio* by the senate condemned to mutilation, and sometimes to destruction, all his public monuments, and especially his memorial and triumphal arches, which were closest to him, personally. The dedicatory inscriptions, the statues and reliefs in his honor, were destroyed. His works



FIGURE 1.—THE ARCH OF CONSTANTINE, SEEN FROM THE NORTH.

where spared became ownerless and could be rededicated by or to any emperor, as was the case, for instance, with the Forum of Nerva. But, throughout the second century, this arch, so strongly associated with the odious memory of a tyrant, remained unchanged and unclaimed, for during this prosperous age of the Antonines the senate continued to build special arches for each triumphing emperor. It was only during the third century, when Rome, impoverished and suffering from the frequent absence of the emperors, with an art in constant

decay, and with building operations almost suspended for a half century, resorted to makeshifts in the way of triumphal monuments. Between 203 when the senate built the arch to Septimius Severus and 303 when one was consecrated to Diocletian, we know of the erection of but a single triumphal arch, that of Gordian III, *ca.* 240. What was done by the senate during these hundred years to commemorate imperial victories? I expect to show that the senate utilized for this purpose the ex-Domitianic arch, turning this wound-scarred war-horse into a marvellous historic bulletin board, a triumphal mosaic and palimpsest, which became the quintessence of Roman history during the third century. Then, between 312 and 315, after it had thus long been purged of its original evil association and, as its inscription boasts, become "famous for its many triumphs," its evolution closed, and it was once more dedicated to a single emperor, to Constantine, after a unique and varied career, to be honored throughout the ages as a monument to the first Christian emperor.

It has been universally believed,¹ on the apparently unimpeachable authority of the dedicatory inscription on the arch, and on that authority alone, that when the Romans, grateful to Constantine for reëstablishing peace after his victory over Maxentius, just outside Rome, in 312, decided to commemorate the event by a triumphal arch, the architect gathered from several earlier monuments a number of bas-reliefs, statues, and architectural members, especially the main cornice, columns, and pilasters, and built all this material into the fabric of the arch as he erected it. To these spoils he is supposed to have added whatever was needed to complete the design, by the handiwork of contemporary artists, in the decadent style of the Constantinian age. Until quite recently it was supposed that the earlier sculptures that were so used were all of the time of Trajan and taken from one of his arches—either that on the Via Appia or that in the Forum of Trajan—or from some other part of his forum. But this theory, due to the current ignorance of the historic phases of Roman sculpture, was

¹ The Bibliography of the arch is too voluminous to be given here, and it would be superfluous. Good lists are given by Mlle. Bieber, by Sieveking, by Arndt, and by other authors of the studies quoted in the following notes.

shattered in 1889 and 1890 by Petersen,¹ who showed that the eight large reliefs of the attic belonged originally to a triumphal arch of Marcus Aurelius, and who also proposed a new interpretation of the eight medallions. It was suggested that the main cornice with its pilasters and columns, which were too beautiful to be Constantinian, were taken from the same arch of Marcus Aurelius, together with the statues of barbarians on the attic. Some years later,² a new impetus came from a detailed study of the eight medallions in the central zone, which led Arndt to attribute these exquisite works not to the Trajanic age, but to the neo-Hellenic art of Hadrian. An English critic³ then put forward the suggestion that they were of the earlier Flavian age, were in fact Domitianic, taken from the *Domus gentis Flaviae*. Almost at once, a German archaeologist, Sieveking,⁴ while accepting the Flavian date for four of the medallions, saw in the other four the art of Hadrian. Then, quite recently, the publication on a large scale, from casts,⁵ of the heads in the medallions has led to an interesting discussion in which a number of critics have taken part, and in the course of which Sieveking⁶ withdrew his dual suggestion and joined those who believe in the Hadrianic theory. It has been supposed that in these medallions, as elsewhere, the original head of the emperor was changed into a portrait of

¹ 'I rilievi tondi dell'Arco di Costantino,' in *Röm. Mitt.* 1889, p. 314; and 'Die Attikareliefs am Constantinsbogen,' *ibid.* 1890, p. 73. Cf. article by Monaci in *B. Com. Rom.* 1900, p. 25 ff. Later study by Petersen in *Neue Jahrb. f. Klass. Alt.* 1906, p. 522 ff.

² Arndt, in *Denk. griech. u. röm. Skulptur*, text to pls. 555, 559, 560, 565.

³ Stuart Jones, 'Notes on Roman Historical Sculptures' in *B.S.R.* III, p. 213, published in 1905.

⁴ 'Die Medaillons am Konstantinsbogen,' *Röm. Mitt.* XXII, 1906, p. 345 ff.

⁵ By Salomon Reinach in *Revue Archéologique*, XVII, 1911, pls. I-XVII, with interesting symposium of opinions by S. de Ricci, Studniczka, and others. Cf. *Revue Arch.* XVII, 1911, p. 465.

⁶ *Berl. Phil. W.* No. 39. The article which caused his reversal of opinion was one on the medallions by Mlle. Bieber (*Röm. Mitt.* 1911, p. 274), which illustrates the danger of basing a study as delicate, as aesthetic, and as detailed as that of Sieveking on an examination of mere photographs instead of the monument itself. It was a result which I predicted to Dr. Hülsen when he received Dr. Sieveking's article for publication. Such facile criticism without investigation of the originals ought to be discouraged, as it tends to confuse and lower archaeological standards.

Constantine when they were used on the arch; but as certain imperial heads were worked over to represent not Constantine, but some emperor or emperors of about the middle of the third century or later, critics suggested the names of Claudius Gothicus, Philip, Carus, Carinus, and even of Constantine's father, Constantius Chlorus. It therefore became necessary to suppose either that Constantine's artists had done this, which was hardly tenable, or that a few of the medallions had been used by one or more emperors of the third century in some earlier arch from which they would have been once again removed to the arch of Constantine, thus reuniting them once more with the rest of the medallions. This hypothesis also shows into what straits the Constantinian theory was forcing the best critics.

During this time no serious objection was raised to the attribution to Trajan and his Dacian victories of the four great battle scenes from a colossal frieze, now set into the passage-way and the ends of the attic.

As for the sculptures of late date and poor style, they had all been ascribed to Constantine's artists: the Victories, the River Gods and Seasons of the spandrels; the keystones; the frieze; the sculptured pedestals of the columns. Quite recently, however, a dissenting voice was raised in regard to the frieze, the greater portion of which, including the triumphal procession, is ascribed by Mr. Wace to an arch or some other monument of Diocletian, a theory which would involve the wanton destruction of this monument only ten or fifteen years after its construction.¹

This summary of the present attitude of critics toward the arch shows that the question has been attacked merely from the side of the aesthetic qualities of the sculptures, if we except a few valuable observations by Petersen on the main cornice and its columns and pilasters. In my own examination, the question will be studied from different points of view, and particular stress will be laid on the structural and technical problems presented both by the sculptures and by the architectural details. The solution which this study suggests will be

¹Wace in *B.S.R.* III, p. 270 ff. Cf. Monaci in *B. Com. Rom.* 1900, p. 75 ff. and *Atti Pont. Acad. di Arch.* 1901, p. 107 ff. and 1904, p. 3 ff.

tested by the historical, literary, and traditional evidence: only such aesthetic questions will be raised as bear upon the problems of chronology.

In order to clear the horizon, the dedicatory inscription must first be examined. It would seem to state in precise terms that the arch was built for Constantine, and to make it futile even to discuss the question, unless we admit that this was one of the not unknown cases in which a restorer claimed to be the builder. But it is not necessary to have recourse to any such hypothesis. Paradoxical as it may seem, it is out of the mouth of the inscription itself that I can prove that the arch existed long before Constantine. It reads (*C.I.L.* VI, 1139):

IMP. CAES. FL. CONSTANTINO MAXIMO
P. F. AVGVSTO S. P. Q. R.
QVOD INSTINCTV DIVINITATIS MENTIS
MAGNITVDINE CVM EXERCITV SVO
TAM DE TYRANNO QVAM DE OMNI EIVS
FACTIONE VNO TEMPORE IVSTIS
REMPVBLICAM VLTVS EST ARMIS
ARCVM TRIVMPHIS INSIGNEM DICAUIT

Now, if we compare this inscription with others on triumphal arches, of which I give typical instances in a footnote,¹ two

¹ The simplest form of arch dedication is that on the arch of Titus: *Senatus Populusque Romanus divo Tito divi Vespasiani f. Vespasiano Augusto*. A contemporary example of the fuller form corresponding roughly to the formula on the arch of Constantine is that on the destroyed arch of Titus in the Circus Maximus: *Senatus Populusq. Romanus imp. Tito Caesari divi Vespasiani f. Vespasiano Augusto pontif. max. trib. pot. X, imp. XVII, cos. VIII, p.p., principi suo, quod praeceptis patris consiliisq. et auspiciis gentem Iudaeorum domuit et urbem Hierusolymam, omnibus ante se ducibus regibus gentibus aut frustra petitam aut omnino intemptatam, delevit*. Both types appear, in the next generation, on the arches of Trajan. The simpler formula, slightly expanded, is at Beneventum: *Imp. Caesari divi Nervae filio Nervae Traiano optimo Aug. Germanico Dacico pontif. max. trib. potest. XVII, imp. VII cos. VI p.p. fortissimo principi, Senatus P. Q. R.* The fuller form appears at Ancona, in which, after the imperial titles, we read: *providentissimo principi Senatus P. Q. R. quod accessum Italiae, hoc etiam addito ex pecunia sua portu, tutiorem navigantibus reddiderit*. In the previous period, we find the longer formula represented on the arch of Claudius in Rome recording the conquest of Britain: *Ti. Clau[di]o*

differences will be particularly noticeable: that there are no chronological or triumphal titles given to Constantine, as is customary especially after the second century, and that the last line, in which the arch is mentioned, is an addition to the normal formula, which is unique in Rome and, in fact, in all Italy. In all other cases the inscription is a mere dedication, without particularizing what is dedicated. Normally the inscription would have ended with the word *armis*. There must be some reason for this break with traditional usage, a break which places this arch in a category of its own, and this reason must be sought for in the wording of this additional line. What is the exact meaning of *arcum triumphis insigne*? The unprejudiced Latinist would unhesitatingly translate it "this arch famous for its triumphs." Why has it not been so understood? Because such a translation would not square with the supposition that the arch was built for Constantine, since Constantine had not had even a single triumph, much less several triumphs. His triumphal entrance into Rome after the victory over Maxentius was merely a popular ovation, not a triumph, which is a matter formally voted on and decreed for certain specific deeds, including the enlargement of Roman

Drusi f.] . . . Senatus Po[pulusque] Ro[manus] quod reges Britanniae XI devictos sine ulla iactura in deditionem acceperit gentesque barbaras trans oceanum primus in dicionem populi Romani redigerit. Among the simpler and shorter formulas of the Augustan age, the arch at Rimini represents the fuller form (*C.I.L.* XI, 365), showing that the arch commemorated the building and repairing of Italian highways and ending: *celeberrimeis Italiae viis consilio [et sumptibus] suis muniteis*. The style thus inaugurated by Augustus in his early years, and which, as we have seen, was continued until the close of Trajan's reign, was not discontinued under the later Antonines, for it appears on the arch of Septimius Severus in the Forum: *Imp. Caes. Lucio Septimio . . . et Imp. Caes. M. Aurelio L. fil. Antonino . . . ob rem publicam restitutam imperiumque populi Romani propagatum insignibus virtutibus eorum domi forisque, S. P. Q. R.*

In all these cases the monument bearing the dedicatory inscription is left unmentioned.

It is a fact that has some bearing on the present case that the arch of Augustus at Fano was restored under Constantine and *rededicated to him* a few weeks after his death, between May 22 and September 9, 337: *Divo Augusto Pio Constantino patri dominorum curante L. Turcio Secundo*, etc. The original dedicatory inscription of Augustus was left when the new dedication was added. This constitutes the main difference between the arch at Fano and the arch in Rome, whence the original inscription had disappeared about two hundred and fifteen years before the Constantinian dedication was added.

territory and the conquest of foreign foes, none of which Constantine could claim. Yet, when the arch was dedicated to him, it was famous, noted, for its connection with *several triumphs*. Not even by the greatest stretch of the imagination, or by granting a breach of immutable Roman law and custom, can one regard this expression as referring to Constantine. On the other hand, it is easy to see how the senate, by taking an arch already built, already used as a triumphal arch, and rededicating it to Constantine, could by this subterfuge honor the emperor without breaking the law.¹

The second peculiarity to which I referred is the absence in the inscription of any chronological and triumphal titles such as are ordinarily given to emperors on their triumphal arches under the middle and later empire. This is the more inexplicable because in the latter part of 315, when the arch is supposed to have been dedicated, Constantine had already been given in inscriptions of 314 and 315 such triumphal titles as Germanicus Maximus, Gothicus Maximus, Sarmaticus, Britannicus, Persicus, Adiabenicus.² In the absence of chronological data in the dedication itself, the only reason there has been for the selection of 315 as the date of the arch has been the supplementary inscriptions in large letters lower down. On the northern face are: VOTIS X on the left pylon and VOTIS XX on the right pylon; and SIC X SIC XX in the corresponding positions on the southern face. It has been supposed that these two expressions were undoubtedly connected with the *decennalia* of the emperor, which took place on July 25, 315, and that they expressed the hope that his twentieth would be as auspicious as his tenth anniversary. It seems curious that no scholar should have tested the accuracy of such a conclusion, but that all have

¹ See the condemnation of Constantine by Ammianus Marcellinus (XVI, 10) for breaking this Roman tradition by erecting arches in Gaul to celebrate victories in wars that were civil or within Roman territory. The proper theory is referred to in Pliny's Panegyric of Trajan, where Domitian's construction of arches without corresponding additions to Roman territory is condemned.

² See Ferrero, in *Atti Acad. Sc. di Torino*, XXXII, p. 837 ff. Cf. *C.I.L.* VIII, 10064; XI, 9; also Pauly-Wissowa s.v. *Constantinus*. It is still asserted that Constantine did not receive the title *Maximus*, which is given to him on the arch, until 315, but Cagnat himself (p. 483) acknowledges that Babelon has proved (*Mélanges Boissier*, p. 53) that he had it as early as October 312.

followed one another unquestioningly. The slightest inquiry¹ would have disclosed the fact that neither in the case of the VOTIS or in that of the SIC was such a rule actually followed by Roman custom. In the case of Probus (276-282), though he reigned for only about *six* years, we find on his coins the expression VOTIS X et XX FEL. Constantius Chlorus, who was Augustus for only about a year, has on his coins VOT. XX SIC XXX. Gratian (361-389), at the most liberal allowance, can be given only 28 years, yet his coins have VOT. XXX MVLT. XXXX. Of emperors whose coins have VOT. XX MVLT. XXX Constans reigned only five years, Valentinian II about eleven, and Valens about fifteen years. The expression SIC X SIC XX is used of several whose reign was much under ten years — Galerius, Maximinus, etc. Numerous examples can be gathered from Cohen, Eckhel, *et al.* The conclusion is that the expressions SIC X or VOT. X were used or could be used of an emperor during any year of his reign from the second to the tenth.

There is, then, no ground whatever, on the basis of these expressions, for dating the dedication of the arch of Constantine in 315. It could have happened just as well in 314 or 313; or at any time, in fact, after Constantine's victory over Maxentius in October 312. This brings us back to the question of the absence of any triumphal titles in the dedication. If in 314 and 315 Constantine had assumed the titles I have enumerated above, and if they are not given in the dedication, the logical inference would be that the date of the dedicatory inscription antedates 314. I would, therefore, suggest the year 313. As will appear later, the work actually done on the arch by Constantine's artists was not so extensive as to make it necessary to allow more than a few months for its execution.

We may conclude then, merely from the dedication, that the arch, already associated with several triumphs before the time of Constantine, was dedicated to him in 313.

Now, an arch, in order to be associated with several successive emperors, would have to be built originally by or dedicated to an emperor who suffered after death the *memoriae damnatio*,

¹ An examination of the index of Cohen-Babelon would be sufficient to establish the baselessness of this imaginary chronological certainty.

which entailed the casting down of his statues and the erasure or destruction of the inscriptions in his honor. In the case of such a triumphal arch, the elimination of the dedicatory inscription would be supplemented by the destruction of bronze quadriga, imperial statue, trophies, triumphal frieze, and any other decorative features that connected the structure very clearly with the person and career of the emperor. It would then be a mutilated civic monument unclaimed and undedicated, which could be adapted to temporary or miscellaneous purposes, and could at any time be rededicated. To which of the emperors with both a triumphal record and the stigma of a *memoriae damnatio* can the construction of the arch of Constantine be ascribed?

This question, which it would seem almost hopeless to ask, is answered with unexpected clearness by the famous topographical

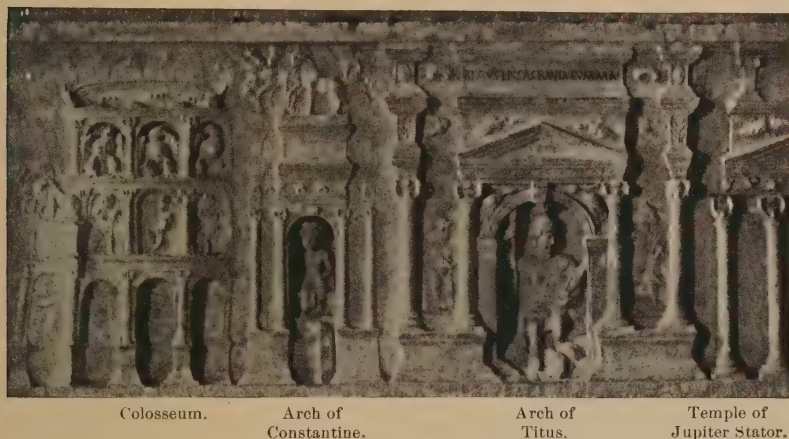


FIGURE 2. — PART OF THE HATERII RELIEF, SHOWING THE "ARCH OF CONSTANTINE" AS IT WAS IN THE TIME OF DOMITIAN.

relief from the tomb of the Haterii (Fig. 2), known to all Roman scholars as a corner-stone of Forum topography, which reproduces the principal buildings along the early part of the processional route from the funeral ceremony in the Forum to the mausoleum on the Via Labicana. The first building is the temple of Jupiter Stator at the head of the Via Sacra; the second is the arch of Titus; the third is *an arch hitherto unidentified*; the fourth is the Colosseum. The artist indicates, as

clearly as possible, that the arch of Titus is in the foreground, and that the unknown arch, by its smaller size and lower relief, is in the distance, close to the Colosseum. It is given in profile and its façade has free-standing columns. There is a sculptured frieze encircling the entire arch under the main cornice, and the attic is crowned by an imperial triumphal quadriga. An imaginary niche or arcade is cut in the end of the arch for a statue of the Mater Magna, an indication that her temple was in this section of the Palatine. Every one of these characteristics suits the arch of Constantine. This unidentified arch stands about where it does, faces in about the way it does, and has the same design, in so far as it can be seen from the end. (Compare Figs. 2 and 3.) One of the unrecognized facts about the arch of Constantine is that it probably had a sculptured frieze under its main cornice which was torn away. If the arch on the Haterii relief is not the arch of Constantine, what is it? Not a trace of any arch has been found in the excavation of this immediate neighborhood, nor is there any possibility that it could have stood anywhere except about where the arch of Constantine now stands. A photograph taken with the arch of Titus in the foreground to the right, with the Colosseum in the middle background, would include between them the arch of Constantine seen almost in profile.

What is the date of the arch on the Haterii relief? The relief has been generally conceded to be Flavian, or, more specifically, Domitianic.¹ As the arch of Titus is reproduced, which was finished by Domitian, it can hardly be earlier. As the relief represents the funeral ceremony and the opening of the new family mausoleum, and as busts found in the mausoleum are generally conceded to be of distinctly Flavian art, it cannot be later than Domitian. Consequently, the unidentified arch must belong to the reign of Domitian. The use of free-standing columns at this early date may be objected to. It has been supposed that only engaged columns were used in

¹ Helbig, *Führer*, Nos. 670-675; Crowfoot in *J.H.S.* 1900; Benndorf-Schoene, 343-345; Wace, 'Frag. of Rom. Hist. Rel.' in *B.S.R.* III, 3. Judgment has been based mainly on the technique of the busts found in the mausoleum, but that of the reliefs is also convincingly Domitianic. It is my opinion that the group of four divinities is somewhat later, possibly Hadrianic or Antonine.



FIGURE 3.—EAST END OF THE ARCH OF CONSTANTINE.
(With inserted medallion and frieze cut long after construction.)

the design of arch façades until the time of Hadrian. I have, however, myself called attention to their use in the early part of Trajan's reign. So far as we can judge they had not been introduced in any arches under Augustus, Tiberius, Claudius, or Nero. The arch of Titus, begun before Domitian's accession, did not have them. But in this arch on the Haterii relief they appear, and the inference would be that it is to one of the consummate artists who worked for Domitian that the innovation was due that was slowly to revolutionize arch design. More than this, I may say that several years before I had identified the arch of Constantine as an arch of Domitian I had concluded from a study of the coinage of Domitian that free-standing columns were used in his triumphal arches. As he made himself notorious for the number and magnificence of his triumphal arches, more than any emperor either before or since, it would have been natural for his architect to innovate in their design. The equation, then, can be stated as follows: arch of Constantine = unknown Haterii arch = an arch of Domitian.

The evidence of the inscription and of the Haterii relief, which might seem to be conclusive in themselves, had, however, nothing to do either with my first doubts or with my gradually acquired certitude as to the pre-Constantinian date of this arch. This certitude I gained absolutely from the study of the construction, and it was based entirely on technical grounds which showed me how impossible the Constantinian date was. Only after this conviction had been gained and its details were being carefully worked at and sifted did I see how both the inscription and the relief fitted in with my revolutionary idea and gave to my structural argument the seal of historical corroboration. If the objections to the Constantinian date which I enumerate on p. 368 are now reread, it will be evident that they can all be explained by my proposed Domitianic date.

As a preliminary to the technical study it will be necessary to describe how a triumphal arch was built. The materials varied at different times and in different regions, but one rule always holds good, because it was the orthodox traditional method handed down from Greece to Rome: that all the decorative work was done on the monument itself *after* con-

struction. We are accustomed in modern times to the habit of cutting the ornamentation — both figured and decorative — *before* setting it in place. So it must be reiterated and emphasized that friezes, medallions, rectangular reliefs, keystones, coffered ceiling, cornices, spandrel groups, were all planned, and the blocks or slabs on which they were to be carved were built up with the structure and left rough, with just the proper projection from the mass, and were not touched until the construction was completed. Then the decorative work was begun, at the top: first the carving and then, at times, the coloring. This preliminary will make it easy to explain the real relation of the sculptures on the arch of Constantine to its structure, and to show how untenable is the current hypothesis.

First, however, a few more words as to the structure itself. The official or central Roman school — as distinguished, let us say, from the Campanian school, or from provincial schools like those in Northern Africa and Syria — began by building triumphal and memorial arches of solid blocks of travertine and tufa and then of travertine alone. This was in the pre-Augustan and Augustan age.¹ Before the death of Augustus, the spread of the use of decorative sculpture on arches made artists adopt a facing of marble slabs and blocks covering the travertine, that should allow of the desirable beauty of detail impossible in the coarser stone. Beginning with a thin veneer the marble facing became gradually heavier. In the time of Constantine and for some time previously the core behind the facing had ceased to be travertine and had become rubble, concrete, and brick. This is exemplified in the Janus arches of the Forum Boarium and at Saxa Rubra, near Rome. In the arch of Constantine we find the earlier technique of the travertine core, and among existing monuments a close analogy is to the arch of Trajan at Beneventum. This in itself argues a pre-Constantinian date for the structure. In the parts where brickwork is added we find Constantinian work on our arch.

¹ Pre-Augustan examples are at Spoleto, Aquino, Trieste, Aix-les-Bains, Carpentras, etc. Augustan examples are at Aosta, Verona, Rimini. Note the thin veneer at Aosta (Porta Praetoria), which is paralleled at Spello in the pre-Augustan gates.

It is also necessary to note that Roman builders were extremely particular not to break the course lines of their masonry, especially in the facing blocks or slabs. The sculptural decoration was not allowed to interfere with this regularity. The course lines were made to correspond to the top and base lines of the reliefs. This was easy when, as was nearly always the case, the marble facing that was left plain was built up together with the projecting facing that was to be worked by the sculptors. In the unusual cases, in later Roman times, when already finished decorative units taken from earlier monuments were embodied in the new construction, as is supposed to have been the case in the arch of Constantine, it would not be difficult to follow the same rule. No architectural critic would hesitate to deny that a Roman architect could have preferred in such a case to zig-zag his course lines rather than take the trouble to gauge their height by his material.

But we find that, in order to incorporate the sculptured slabs into the arch of Constantine the architect was obliged in some cases to cut into the course above for the length of the sculptured slab; in other cases to substitute a wider block in that course with an offset in order to have it set down on to the sculpture; in still other cases, to supplement this by the addition of a small cornice strip at the base. The obvious and imperative conclusion is that in such cases the sculptures were inserted in an already existing structure and could not possibly have been built up with it. Again, no competent architect could decide otherwise. We shall examine presently the examples of each of these methods of insertion.

Before proceeding let me recapitulate the main reasons against the Constantinian date.

(1) It does not explain the series of imperial military busts crowned by Victories set into the masonry of the minor archways. The presumption is that they represent emperors, and that they antedate Constantine.

(2) It does not agree with the fact that the majority of the sculptured decorations were inserted into the structure of the arch at some time *after* the construction. Any architect familiar with Roman work can see this.

(3) It does not explain the terrible damage done to the main

cornice while the sculptures of the attic were so little damaged, but such damage could easily have been caused in casting down the groups on the attic and the attic inscription of Domitian.

(4) It does not explain the use, in the recut sculptures, of heads of emperors other than Constantine; a fact explicable only on the supposition that the arch was connected with these emperors.

(5) It does not agree with the fact that the triumphal frieze, which is even earlier than Constantine, is cut in the already existing masonry and was neither provided for in the design nor brought from another monument.

(6) One is unable to explain, with this theory, how the spandrel decoration came to be drafted on a preëxisting structure.

(7) It is, we have seen, contradicted even by the dedicatory inscription.

(8) It is contrary to Roman law and custom.

(9) It is contrary to conclusions based on the *Notitia* and the Haterii relief.

We shall now proceed to the technical analysis, beginning with what is perhaps the simplest problem, that of the end medallions.

The End Medallions (Figs. 4 and 5). In each of the ends there is a medallion, on a level with the eight medallions of the two fronts. They are in a later style and were evidently an imitation of the series of eight. It has been assumed that they are of Constantinian workmanship, though it has been grudgingly granted that their art has pre-Constantinian elements. As a matter of fact it seems like defying the elementary standards of criticism to assert that they belong to the same time and school as the frieze or the spandrels. They seem hardly later than the middle of the third century, and might belong to the time of Severus Alexander. A comparison of these horses with those in the triumphal frieze and the Siege of Verona will illustrate the technical differences. It will be clear, later on, that even this frieze is pre-Constantinian.

If we examine the relation of these end medallions to the masonry, it is evident that they were inserted and were not

part of the original structure or facing. In order to insert the Rising Sun medallion at the east end, which was to be cut in a slab too short to correspond fully to four courses of the facing, the architect first inserted at the bottom of the cut which he made a narrow cornice strip, to serve as a decorative base.



FIGURE 4. — EAST END MEDALLION, "SOL INVICTUS."

This is an evident insertion because it was against Roman custom to carve such mouldings in separate blocks. They were cut either in the top or in the bottom of a wide course, as can be seen without leaving this arch, for instance, in the moulding below the frieze on this same east end. But even with this inserted strip the slab was found not to reach to the level of the fourth course. The architect, therefore, seems to

have removed the facing above it; not only two blocks of the next course but the central epistyle block. He then shortened one of the blocks in order to admit of a new block that should project on both sides of the new medallion. In being put back the shortened block was injured. A new block was cut so as to fit down on to the medallion, and the change in the course line was almost hidden by the thin porphyry framework — now disappeared — which was brought up about to the regular course



FIGURE 5. — WEST END MEDALLION, "DIANA."

level. The jags cut in the block were plainly visible, however, at either end. After this the epistyle block was put back with some slight abrasions. On the right end the upper and lower facing blocks were not cut, but the medallion slab was cut away to fit them and the irregularity was concealed by the porphyry facing of the frame.

In the Moon medallion on the west end, the process was reversed. The two slabs that compose it (each of the other medallions is on a single slab) were longer than was needed, and instead of cutting them down to suit the coursing of the facing slabs, the two slabs of the course above were cut into. The base-moulding also was not separate, as on the east end,

but was cut in the slabs of the medallion. The numerous irregularities seem to show that the insertion was done quite late and led to considerable disturbance of the entire facing. Also, when the surface was cut down to form a square frame filled with some richly colored marble, a queer effect was produced by the narrow rim of the slab left on the right side against the courses.

The conclusion is, on technical grounds, that these medallions were inserted, in the rough block, into the structure of the pre-existing arch and then carved in imitation of the other medallions; on stylistic grounds this happened before the time of Constantine.

A. L. FROTHINGHAM.

PRINCETON, NEW JERSEY,
MAY, 1912.

(To be continued.)

METHODS OF DETERMINING THE DATE OF
ROMAN CONCRETE MONUMENTS
(SECOND PAPER)

V. THE PERIOD OF THE INTRODUCTION OF ROOF-TILE
FACING (AUGUSTUS-CLAUDIUS)

Augustus. — The plans of Julius Caesar for his new capital, interrupted by his untimely death, were accepted by his successor and heir as a part of his inheritance. Augustus, however, cast in a different mould from his adopted father, gave to these plans and to the public monuments in which they were embodied a character wholly their own. This distinctive character manifests itself, in the existing monuments, not only in certain new architectural and decorative forms, but also in a new and independent type of construction, to the introduction of which is due, in large part, the importance of the age in the history of the art of building.

The new type of construction, arising in part from the abandonment of much which was faulty in the earlier type, owing to its transitional character, is especially worthy of note in the following respects:

(1) The clearer recognition of the values of the various materials and methods of construction.¹

(2) The consequent elimination of many which were inadequate or worthless.

(3) The introduction of certain new materials and methods, as well as of a number of new principles.

(4) A distinct advance in technique, due possibly to the importation, in larger numbers, of foreign workmen as well as of foreign ideas.

¹ Concerning the value of the various materials and methods, see the second book of the *De Architectura* of Vitruvius.

(5) The appearance, especially in public monuments, of a recognized, though imperfect, canon of construction.¹

The most conspicuous results of this general advance in the art of construction were the abandonment of sun-dried bricks, or *lateres*, as a building material,² and the marked increase in the use of *opus caementicium*, with its variant, *structura testacea*, for all classes of monuments. With the clearer understanding of the comparative value of the different materials, also, the more friable tufas were abandoned, except for vaults, and a firmer reddish brown variety was adopted almost universally both for walls of *opus quadratum* and for the *caementa* in structures of *opus caementicium*. In place, too, of the earthy *pozzolana-arena* of the earlier periods, a clean red variety³ was introduced, to the use of which is due, in large part, the strength of the Roman concrete. To the group of structural materials were added, also, broken roof-tiles, or *tegulae*.⁴ These tiles were used alike for *caementa* and facing in the new type of construction, called by Vitruvius⁵ *structura testacea*, out of which, when combined as a facing with the earlier *opus caementicium*, was developed at a later time brick-faced concrete, the typical Roman construction.⁶ As a decorative material, Luna marble was introduced, the extensive use of which led to the boast of Augustus that he had received a city of sun-dried bricks but had left in its place one of marble.⁷

¹ The endeavor to create such a canon is shown in the establishment by Augustus of certain general building regulations (Vitr. *De Architectura*, II, VIII, 17; Suet. *Aug.* 89). A considerable portion of the valuable, though pedantic, treatise of Vitruvius is clearly designed, also, to further this endeavor.

² It is possible that the regulation by law of the width of walls (Vitr. *l.c.*; Suet. *l.c.*) was designed in part to attain this end, since walls of sun-dried bricks (*structuralatericia*) were, of necessity, thicker than those made of other materials. It is clear from the words of Vitruvius, as well as from other evidence, that sun-dried bricks were still in common use in the time of Augustus.

³ This *pozzolana-arena*, the *arena rubra* of Vitruvius (*l.c.* II, IV, 1), which is that now found, according to Brocchi (*Del Suolo Fisico di Roma*, p. 117), near the Tre Fontane, is still regarded as the best variety near Rome.

⁴ Vitr. II, VIII, 19, *et passim*.

⁵ Vitr. II, VIII, 17, 18, 19.

⁶ Nissen holds (*Pomp. Stud.* p. 4) that the most distinctive characteristic of Roman construction throughout the empire is the preference shown in it for the use of bricks and *pozzolana* mortar.

⁷ Suet. *Aug.* 28: *Urbem . . . excoluit adeo ut iure sit gloriatus marmoream se relinquere quam latericiam accepisset. Latericius*, as well as *later*

In methods of construction, also, an advance is noticeable, in monuments both of *opus quadratum* and of *opus caementicium*, in the adaptation of the materials to the structural demands of the various monuments or parts of monuments in which they are used.¹ For ordinary walls of *opus quadratum*, reddish brown tufa was commonly employed. Peperino, however, on account of its fireproof qualities,² was substituted for it in certain buildings or parts of buildings, while travertine was used for points of special pressure as well as for decorative purposes. The earlier grayish yellow tufa was retained, on account of its light weight, for the *caementa* of vaults.

By reason of the fuller recognition, at this time, of the special fitness of *opus caementicium* for the more massive parts of structures, such as foundations and podia, important monuments made wholly of *opus quadratum* are very rare.³ The materials used in those of which remains are left are reddish brown tufa, peperino, travertine, and marble. The monuments which may be assigned, though only tentatively,⁴ to this class are the following⁵: the porticus of Octavia (ca. 23 B.C.),⁶ the arch of Dolabella (10 B.C.), the ara Pacis (9 B.C.), the aqueduct arch inside the porta Tiburtina (5-4 B.C.), the forum of Augustus and the temple of Mars Ultor (6-2 B.C.). The Marmorata in the Campus Martius and the embankments of the Tiber were probably wholly of *opus quadratum*, as they are reported to have been.

when used alone, refers always to sun-dried bricks. The use of kiln-dried bricks as material for walls was first introduced, as has been said, by Augustus himself.

¹ Cf., for example, Vitruvius, *l.c.* II, IV, 3; II, V, 1; II, VI, 6.

² In the history of Roman construction as well as in the topography of the city, the influence of the various fires has not been properly estimated. For a list of the fires during the imperial period, see P. Werner, *De Incendiis Urbis Romae Aetate Imperatorum*, Leipzig, 1906.

³ Its use was, however, apparently commended by Augustus (Plutarch, *Apophthegm. Aug.* 15).

⁴ No final classification of these monuments is at present possible, since the data concerning the material used in the foundations are incomplete.

⁵ Owing to the nature of the discussion, the list here given, as well as those which follow, includes only the monuments to which a date is assignable on other grounds than those of construction. Certain of the other monuments will be discussed in following papers.

⁶ The brick-faced walls of the porticus belong to a later restoration.

The larger number of monuments,¹ however, while retaining *opus quadratum*² for the greater part, at least, of the superstructure and external walls, adopted even more generally than in the last period *opus caementicium* for the foundations and the other more massive portions of the structure. The materials used for the *opus quadratum* in this class of monuments were the same as those used in the preceding class.

The monuments built wholly of *opus caementicium* were, with a few notable exceptions,³ of secondary importance, consisting chiefly of private houses or structures of small size. These monuments, so far as they are at present determined, are the following:

The altar base in front of the temple of Julius Caesar (43 B.C.).

The "schola kalatorum" (ca. 36 B.C.).

The aqua Julia (?) (33 B.C.).⁴

The mausoleum of Augustus (28 B.C.).

The columbarium of the freedmen of L. Arruntius (ca. 6 B.C.).⁵

The fountain and aedicula⁶ of Juturna (ca. 6 A.D.).

The aqua Alsietina (10 A.D.).⁷

The columbarium of the slaves and freedmen of Marcella.⁸

The "auditorium of Maecenas."

The house of Livia on the Palatine: the upper walls.

The villa of Livia at Prima Porta.

The columbarium of the freedmen of Livia.⁹

With the introduction of broken roof-tiles as a material for walls arose, as has been said,¹⁰ the special form of concrete construction called *structura testacea*.¹¹ This differs from *opus*

¹ The list of these monuments is the same as that given on pp. 392 ff., with the exception of those given immediately below.

² *Opus quadratum* was probably retained, in certain cases, with a view to economy of space.

³ The mausoleum of Augustus, the aqua Julia (?), and the aqua Alsietina (?).

⁴ Lanciani, *Acque*, pp. 92-93.

⁵ Piranesi, *Antichità di Roma*, II, pls. IX, X, XVI.

⁶ Boni, *Not. Scav.* 1901, pp. 71, 84.

⁷ Nibby, *Dintorni di Roma*, I, 134; Hülsen-Jordan, *Top.* p. 654, n. 83.

⁸ Mau, 'Rostra Caesaris,' *Röm. Mitt.* XX, p. 260. ⁹ Mau, *l.c.* ¹⁰ P. 388.

¹¹ Vitr. *l.c.* II, VIII, 19, *quare maxime ex veteribus tegulis testa structi parietes firmitatem poterunt habere.*

caementicium faced with *opus testaceum*, the common Roman construction, only in the restriction of the material used for the *caementa* of the structure to roof-tiles.¹

The number of the monuments in which the new type of construction appears is very small, but five having as yet been found.²

The *opus caementicium* of the period, whether used alone or with *opus quadratum*, is very uniform in type. The *caementa*, except in the five monuments mentioned below, consist almost entirely, both in foundations and in walls, of reddish brown tufa, the typical material of the period, with, at times, a small amount of the grayish yellow or lighter brown tufa of the earlier periods. *Cappellaccio*, travertine, and peperino are, also, occasionally found, but no *selce* and, practically, no bricks or marble. In the foundations and podia, the *caementa* are large and are laid with little attention to order; in the walls, however, they rarely exceed medium size and are arranged in somewhat irregular rows. In three of the five monuments referred to above, the Regia, and the temples of Saturn and Concord, the choice of the materials used for the *caementa* is clearly due to the large quantities of *cappellaccio* and other poorer varieties of tufa made available by the destruction of the earlier monuments to which they had belonged. The pieces of grayish yellow tufa and travertine which are used as *caementa* in the foundation walls of *opus caementicium* of the basilica Julia are plainly the refuse materials from other parts of the building. The *selce* used in the tomb of Caecilia Metella is the local stone. In the few vaults which are preserved, the *caementa* are made almost entirely of grayish yellow tufa.³ The mortar is, without exception, of the dusky red type found only in this general period.⁴ It is far finer in quality and less friable than the mortar of the republican period, though lacking the rock-like hardness of that of a century later. The *arena* consists of red or reddish brown *pozzolana*, with which a little gray and

¹ Though these walls are not brick walls in the modern sense of the term, they resemble them much more nearly than do those of *opus caementicium*.

² For the list of these monuments, see p. 396.

³ On account of its lightness, this grayish yellow tufa continued to be used for vaults until the time of Septimius Severus.

⁴ The general period includes also the reigns of Tiberius and Caligula.

white are occasionally mixed. This *pozzolana-arena*, though not strictly *terrosa*,¹ is less clean than that used at a later period, owing to the presence of a fine red dust, to which is due the dusky red color of the mortar.² The lime is more abundant than in the republican mortar³ and is of a very good quality. Thin layers of tufa, travertine, or marble chips⁴ appear at somewhat regular intervals in the body of the concrete, pointing clearly to the width of the portions of the structure made at one time.

In the limited number of buildings or separate walls where a facing was required, *opus reticulatum*⁵ was used.⁶ *Opus incertum* was still retained, however, in a few monuments outside of Rome.⁷ The *tesserae* of the *opus reticulatum* are made normally of reddish brown tufa⁸ and measure from 6 cm. to 10 cm. across the face.

The principal monuments or parts of monuments belonging to the age of Augustus in which *opus caementicium* was used are the following:⁹

The altar base in front of the temple of Julius Caesar (43 B.C.).

The temple of Julius Caesar: the foundations and the podium (42-29 B.C.).

The temple of Saturn: the foundations and the podium (42 B.C.).

The Regia: the upper part of the foundation walls (36 B.C.).

The "schola kalatorum" (*ca.* 36 B.C.).

The aqua Julia (?) (33 B.C.).

¹ For the meaning of this term, see Vitruvius, *l.c.* II, IV, 1.

² Cf. the mortar of the time of Trajan and Hadrian, pp. 415, 418.

³ For the proportions of the lime and *pozzolana*, see Vitruvius, *l.c.* II, V, 1.

⁴ The *caementa marmorea* of Vitruvius (*l.c.* VII, VI, 1).

⁵ *Opus reticulatum* was correctly held by Mau (*l.c.* pp. 260 f.) to be the typical facing of the Augustan age.

⁶ The more important monuments in which *opus reticulatum* appears are: the "schola kalatorum," the aqua Julia (?), the mausoleum of Augustus, the theatre of Marcellus, the domus Publica, the fountain of Juturna, the aqua Alsietina (?), the columbarium of the freedmen of Marcella, the "auditorium of Maecenas," the house of Livia on the Palatine, and the villa of Livia at Prima Porta.

⁷ The most noted example is the Pondel at Aosta.

⁸ In a few cases, other varieties of tufa are used.

⁹ For the class of monuments included in this list, see p. 389, n. 5.

The curia Julia: the upper part of the foundation of the steps¹ (29 B.C.).

The cloaca in front of the curia Julia: the vault² (29 B.C.?).

The mausoleum of Augustus (28 B.C.).

The Rostra Augusti: the hemicycle and the foundations of the rectangular structure (20 B.C.?).³

The arch of Augustus: the foundations (19 B.C.).

The theatre of Marcellus: the foundations and the inner walls (13 B.C.).

The pyramid of Cestius: the foundations and the body of the structure⁴ (before 12 B.C.).

The temple of Vesta: the foundations and the podium (14-12 B.C.).

The domus Publica: the walls faced with *opus reticulatum* and the foundations of the walls of *structura testacea* (14-12 B.C.).

The basilica Aemilia: the foundations of the steps on the north (?) and the foundation wall of the columns (14-2 B.C.).

The large cloaca under the basilica Aemilia: parts of the top and of the walls (14-2 B.C.).

The sacellum Cloacinae: the upper part (14-2 B.C.).

The porticus of Lucius and Gaius⁵ and the tabernae novae: the foundations of the porticus and of the tabernae (2 B.C.).

The temple of Magna Mater on the Palatine (?) (3 A.D.).

The temple of Castor: parts of the foundation and of the podium⁶ (6 A.D.).

The fountain and aedicula⁷ (?) of Juturna (*ca.* 6 A.D.).

The aqua Alsietina (10 A.D.).⁸

¹ For the lower part of the foundations of the steps, see the previous paper, p. 251.

² Hülsen, *Röm. Mitt.* XVII, p. 37, fig. 9.

³ See Van Deman, *The So-called Flavian Rostra*, *A.J.A.* XIII, pp. 175-176, 180-181.

⁴ Nibby, *R.A.* II, pp. 534 ff.; Piranesi, *Ant. di Roma*, III, pl. XL-XLVIII.

⁵ The evidence for the identification of the colonnade in front of the basilica Aemilia with the porticus of Lucius and Gaius will be presented in a later article.

⁶ The greater part of the existing remains is of the time of Augustus. There are no traces of a restoration by Hadrian.

⁷ See above, p. 390, n. 6.

⁸ For references, see p. 390, n. 7.

The temple of Concord: the foundation of the steps and parts of the podium (10 A.D.).

The columbarium of the slaves and freedmen of Marcella (ca. 10 A.D.).¹

The basilica Julia: the foundation of the steps and the foundation wall of the columns (12 A.D.).

The shops adjoining the basilica Julia: the foundations (?) and the vaults (ca. 12 A.D.).

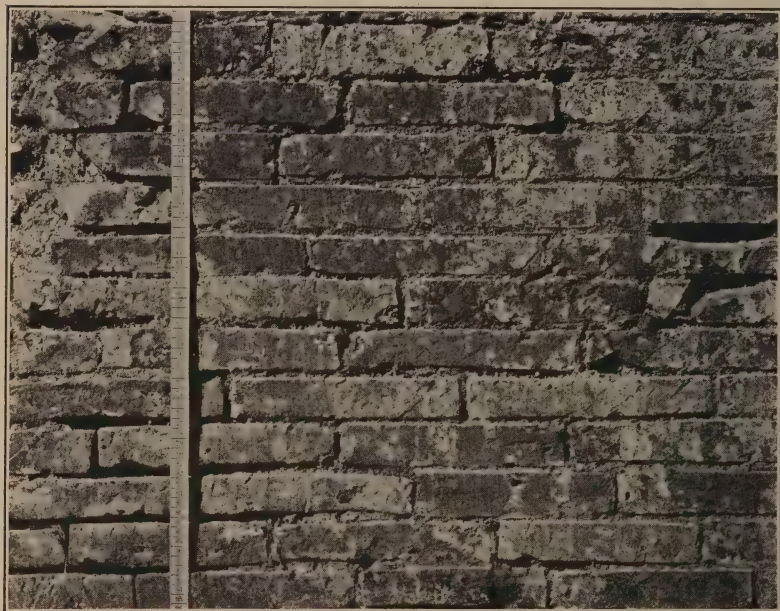


FIGURE 1. — BRICK FACING OF THE TIME OF AUGUSTUS.³

The so-called Cloaca Maxima: parts of the roof and walls.²

The *cuniculi* (completed or restored by Augustus).

The "auditorium of Maecenas."

The tomb of Eurysaces: the foundations (?) and the body of the structure.

The tomb of Lucilius Paetus: the foundations (?) and the body of the structure.

¹ Mau, *Röm. Mitt.* XX, p. 260.

² Narducci, *Fognatura di Roma*, p. 41.

³ From the Rostra Augusti. The photographs used in this and in the illustrations which follow, except in Figure 4, were taken at the distance of a meter and a half from the walls.

The tomb of Caecilia Metella: the foundations and the body of the structure.

The house of Livia on the Palatine: the upper walls.

The villa of Livia at Prima Porta.

In the walls¹ made of *structura testacea*, the *caementa* consist wholly, as has been said,² of the same broken roof-tiles which are used for the facing. The pieces are large and are laid, as a rule, in closely packed though somewhat irregular courses. The mortar is the same as that of the *opus caementicium* described above.

The facing is composed entirely of bricks made from roof-tiles, or *tegulae* (Fig. 1). These tile bricks are, as a rule, irregularly trapezoidal in shape, showing no tendency, as at a later time, to approach the triangular form. The fronts are evenly sawed;³ the other sides are, however, roughly broken. Owing to the nature of the material,⁴ the bricks differ greatly in width, varying, in the Rostra Augusti and the domus Publica, from 3.5 cm. to 4.5 cm. The average width of 50,⁵ which may be accepted as fairly representative,⁶ is 4.1 cm. and the mean deviation .26 cm. Between the two ends of the same brick, also, a considerable difference in width is often found. The length of the bricks varies normally from 20 to 35 cm. They are well puddled and carefully fired, being conspicuous for their almost flint-like hardness. Their color varies from a dark to a light magenta red,⁷ with a tendency, at times, to a magenta yellow.

¹ The foundations of the walls of *structura testacea* are always of *opus caementicium*.

² P. 390.

³ The use of the saw in the preparation of facing bricks is even more noticeable at Pompeii than in Rome.

⁴ The *tegulae* of which the bricks are made are usually 1-2 cm. thicker at the bottom than at the top.

⁵ The exact width of the bricks is as follows:

| Measurement in centimetres. | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 |
|-----------------------------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 3 | 1 | 2 | 5 | 0 | 12 | 5 | 6 | 4 | 2 | 1 | 6 | 2 | 1 |

⁶ The bricks are measured, in all cases, in representative groups of 5 or 10, which are selected from as many structures, or parts of a single structure, as is possible.

⁷ For this color, see the previous paper, p. 236, n. 4.

The mortar is slightly finer than in the body of the structure. The horizontal joints are close, varying in the Rostra Augusti from .5 cm. to 1 cm.; they are, however, somewhat wider in the domus Publica, often exceeding 1.5 cm. They are always, so far as can be determined, carefully raked.¹ The vertical joints are very fine, averaging little more than .6-.7 cm. No bonding courses are found.

The monuments built partially of *structura testacea*, with the specific parts of each in which it is used, are the following:

The Rostra Augusti: the walls inside of the rectangular structure and beside the steps in the rear (20 B.C.?).²

The tomb of Sulpicius Platorinus: the inner walls (18 B.C.).³

The domus Publica: fragmentary walls under the shops and street north of the atrium Vestae (14-12 B.C.).

The tomb of Cestius: the walls of the inner chamber⁴ (before 12 B.C.).

The tomb of Caecilia Metella: the walls of the corridor and of the inner chamber.⁵

The principal characteristics, or "earmarks," by which the monuments of *opus caementicium* of the time of Augustus may be most easily distinguished are: (1) the dusky red color of the mortar,⁶ and (2) the regular use of reddish brown tufa for the *caementa* both of foundations and of walls, to the exclusion of the earlier varieties of tufa as well as of bricks and marble. The walls of *structura testacea* of the same time, which are recognizable, likewise, by the color of the mortar, are still more easily distinguished by the exclusive use of broken roof-tiles for the *caementa*, as well as for the facing, of the structure.⁷

Tiberius. — The exuberant building activity of the age of Augustus was followed by a quarter of a century of inactivity.

¹ This fact is of especial importance in its bearing on the question of the methods employed in building brick-faced concrete walls.

² See Van Deman, 'The So-called Flavian Rostra,' *A.J.A.* XIII, pp. 175-176, 180-181.

³ Platner, *Top.* (1911), p. 516.

⁴ Nibby, *R.A.* II, p. 534.

⁵ The data for the tomb of Caecilia Metella are not complete.

⁶ This characteristic is, however, common to the *opus caementicium* of the whole general period, being found also in the monuments of Tiberius and Caligula.

⁷ See n. 6.

For though Tiberius had had no small share in the great undertakings carried out by his predecessor, the ancient writers give him credit as ruling emperor for but two public works, the erection of the temple of Augustus and the restoration of the stage of the theatre of Pompey.¹ At least three other monuments of a more private character were, however, built by him, the castra Praetoria, the domus Tiberiana on the Palatine and the watch-tower at Capri.² Of these three monuments, as well as of a number of others built during his reign, considerable remains are preserved.

To the history of the development of Roman construction, the long years of Tiberius' reign contribute little, though a slight increase is noticeable in the importance attached to the use of *opus caementicium*.

No certain examples of monuments built entirely of *opus quadratum* remain, and but two of *opus quadratum* combined with *opus caementicium*. The other existing monuments are wholly of *opus caementicium* and *structura testacea*.

The *opus caementicium* used in these monuments differs but little from that of the time of Augustus. The *caementa* in the foundations are in part of reddish brown tufa and in part of *selce*. They are usually of moderate size and are laid with no attention to order. In the walls the *caementa* are, as a rule, largely of tufa, with a little peperino and travertine; no bricks or marble are found. In the schola Xanthi, however, *selce* is used in the walls, which are unfaced, as well as in the foundations.³ The mortar is the same as that used in the Augustan monuments, except in the castra Praetoria, where a dark gray variety appears.

For the buildings or individual walls where a facing was required, *opus reticulatum* was used.⁴

¹ Tac. Ann. VI, 45: *ne publice quidem nisi duo opera struxit, templum Augusto et scaenam Pompeiani theatri*. Cf. Suet. Tib. 47; Cass. Dio, LVII, 10, 2.

² The period of the so-called palace of Tiberius is uncertain.

³ The walls of the schola Xanthi, the level of which was a half metre below that of the Forum, were probably designed merely as substructures to support a platform above, on which stood some important monument, possibly the Golden Milestone.

⁴ The principal monuments in which *opus reticulatum* is found are: The castra Praetoria: part of the wall and the inner rooms (Nibby, *l.c.* I, p. 582); the domus Tiberiana; the tomb in the Vigna Codini (Mau, *l.c.*).

The monuments or parts of monuments in which *opus caementicium* appears are the following:

The schola Xanthi (14–16 A.D.).

The arch of Tiberius in the Forum: the foundations (16 A.D.).

The castra Praetoria: the foundations and a part of the outer wall, and the inner rooms¹ (21 A.D.).

The columbarium of the freedmen of L. Arruntius.²

The domus Tiberiana on the Palatine: probable remains above the clivus Victoriae.

A tomb in the Vigna Codini.³

Structura testacea is found in two only of the more important monuments of the time in Rome,⁴ the castra Praetoria and the tomb of Pomponius Hylas, in the former of which it is used for the outer portion only of the heavier wall of *opus caementicium*.⁵ In general type, it shows no marked change from that of the time of Augustus. The *caementa* in the walls⁶ are, as earlier, of broken roof-tiles laid in irregular rows. The mortar in the tomb of Pomponius Hylas is of the earlier type; in the Praetorian camp, however, it is of the dark gray variety found in the parts of the structure made of *opus caementicium*.

The facing is wholly of bricks made from roof-tiles, which in type resemble very closely those of the time of Augustus. No noticeable change appears in their width, which varies from 3.5 cm. to 4.5 cm. The average width of 50⁷ from the Praetorian camp, which may be accepted as typical,⁸ is 4 cm. and

¹ Nibby, *l.c.* I, p. 582.

² *Ibid.* II, p. 518.

³ Mau, *l.c.*

⁴ It is used also in the watch tower at Capri.

⁵ The projecting towers, of which there were twelve, in addition to those beside the gates, are made wholly of *structura testacea*.

⁶ The foundations of the castra Praetoria are of *opus caementicium*. Those of the tomb of Pomponius Hylas are not visible.

⁷ The exact width of the bricks is as follows:

| Measurement in centimetres. | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.9 |
|-----------------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 2 | 2 | 4 | 5 | 4 | 3 | 12 | 5 | 4 | 3 | 2 | 3 | 1 |

⁸ For the method of selection, see p. 395, n. 6.

the mean deviation .1 cm. In composition, texture, and hardness, also, no material difference is found. The color, however, is less uniform, varying from magenta or magenta yellow to clear yellow. The horizontal mortar joints are close, averaging a little over a centimetre, while the vertical joints average much less. Bonding courses do not appear.

No essential difference in type is found between the *opus caementicium* of the time of Tiberius, with its variant, *structura testacea*, and that of the time of Augustus. The specific characteristics, therefore, by which it is distinguished from the *opus caementicium* of the other periods are the same.

Caligula. — Under the porticus on the north of the so-called temple of Augustus, as well as within the building itself, the excavations of recent years have brought to light many fragmentary walls, which from their position and orientation may safely be accepted as part of the famous building by which Caligula sought, according to Suetonius,¹ to make of the temple of Castor the vestibule of his palace.² These walls, with a few belonging to the circus across the Tiber, which were identified in the seventeenth century but are now lost, are all which can be assigned, with any degree of certainty, to the time of Caligula.

The type of construction used in the walls of the circus is *opus caementicium* faced with *opus reticulatum* and brick.³ The remains of the palace are, on the other hand, of *structura testacea*. The foundations are not visible. The walls, however, do not differ in type from those of the time of Augustus and Tiberius. The *caementa* are wholly of broken roof-tiles and the mortar is of the dusky red type characteristic of the general period. The few bricks of the facing which remain vary in width from 3.5 cm. to 4.5 cm., and resemble, in composition, texture, and color, also, those of the earlier part of the period. The horizontal mortar joints vary from 1 cm. to 1.5 cm.

¹ *Calig. 22: partem Palati ad forum usque promovit atque aede Castoris et Pollucis in vestibulum transfigurata. . . .* For Caligula's work as builder, cf. Pliny, *N.H.* XXXV, 111.

² The large basin under the library connected with the so-called temple, though it may have formed a part of the same palace originally, seems, in its present form, to belong to a later restoration.

³ Nibby, *l.c.* I, p. 605.

VI. THE PERIOD OF TRIANGULAR FACING BRICKS (CLAUDIUS-DOMITIAN)

The period of Claudius, though not conspicuous for the number or magnificence of its civil monuments, is yet distinguished by the boldness and technical skill displayed in carrying to completion the great monuments of engineering undertaken by Caligula. Of the more noteworthy of these, the aquae Claudia and Anio Novus and the emissarium of Lake Fucino, extensive remains have, by good fortune, been preserved to modern times.¹

The period of Claudius is not without distinction, also, in its contributions to the art of building. In the materials used for walls of *opus quadratum* and in the body of the structures of *opus caementicium*, no change occurred at this time. Broken roof-tiles as a specific material for the *caementa* of walls were, however, given up and *structura testacea* as a distinct type of construction disappeared.² As facing bricks, also, broken roof-tiles were, for a time, abandoned, and in their place triangular bricks were introduced. Out of the union of this facing of triangular bricks with the earlier *opus caementicium* arose the typical Roman construction, brick-faced concrete.

For the parts above ground of the aqua Claudia and of a few other monumental structures,³ the earlier construction in *opus quadratum* was retained. In the other greater monuments of the time, however, *opus caementicium* was used alone. Of the most important of these, the aqua Anio Novus, numerous remains are left. The general conclusions here given are, in large part, based upon the data derived from these remains and from those of the foundations of the aqua Claudia.⁴

Owing to the length of the aqueducts and the use, for the sake of economy, of materials found near at hand, a considerable

¹ The remains of the ancient emissarium were, unfortunately, in great part destroyed by the modern engineers in constructing the modern emissarium.

² No walls of *structura testacea* have been found which are later than the time of Caligula.

³ The most important of these are the new arches of the aqua Virgo inside the city and the façade of the emissarium of Lake Fucino. (Brisse and Rotrou, *Dessèchement du Lac Fucino*, 1876, p. 252 and pl. VII, Fig. 1.)

⁴ No critical examination of the aqueducts has as yet been possible except within a few miles of the city. Concerning the aqueducts as a whole, therefore, the conclusions here drawn are in no respect final.

difference in details is noticeable at various points in their course. The general type of construction, however, remains the same. The *caementa* in the foundations of the aqua Claudia¹ are of *selce*, with which, however, in the more massive portions of the Anio Novus, large pieces of red and yellow tufa are mixed. In the walls of the *specus* of the Anio Novus which

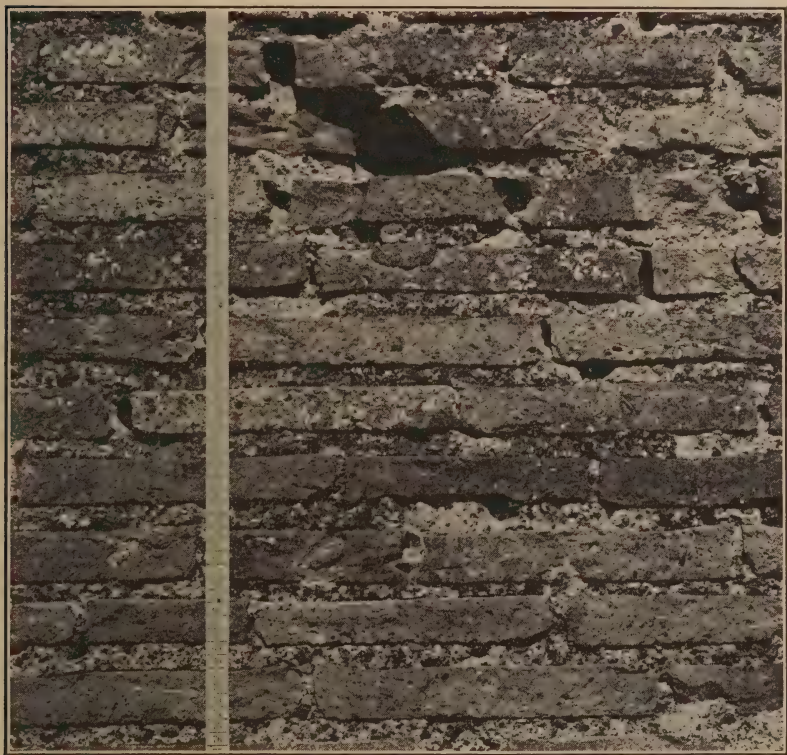


FIGURE 2. — FACING OF TRIANGULAR BRICKS OF THE TIME OF CLAUDIUS.²

are above ground,³ the *caementa* are usually of peperino, the material used for the arches of the aqua Claudia, or of tufa. A few broken roof-tiles and pieces of brick are occasionally

¹ These are most conveniently seen a few miles from the city, near the point where the line of the aqueducts is crossed by the Naples railway.

² From the Anio Novus.

³ The *specus* of the Anio Novus is most easily studied near the railway station of Capannelle.

found. The *caementa* of the roof of the *specus* differ little from those of the walls. The mortar varies considerably with the locality, but is, in general, of a reddish gray tone. The *arena*¹ consists, as a rule, of a reddish brown and gray *pozzolana*, somewhat *terrosa* in character, with which is mixed, at times, a considerable quantity of coarse gravel. The lime is of a medium good quality but is often deficient in quantity.

The facing is of three kinds, *opus reticulatum*, *opus reticulatum* with *opus testaceum*, and *opus testaceum* (Fig. 2). The *opus reticulatum* is found only in certain parts of the inner facing of the *specus*, the other parts of which are faced with *opus testaceum*. The outside of the *specus* is faced with *opus reticulatum* and *opus testaceum* or with *opus testaceum* alone. The *opus reticulatum* is made usually of a yellowish gray or a light red tufa belonging to the region. The *tesserae* measure across the face from 7 cm. to 7.5 cm. The *opus testaceum* used in the facing of the outside of the *specus* is made wholly, so far as seen, of triangular bricks made from the small square bricks,² called *laterculi bessales*.³ On the inside, smaller triangular bricks, as well as a number of broken roof-tiles, are occasionally found. The larger triangular bricks are normally from 3.8 cm. to 4.2 cm. wide. The average width of 100,⁴ which may be regarded as representative, is 4 cm. and the mean deviation .1 cm. In length, they vary from 17 cm. to 27 cm., rarely exceeding 28 cm.⁵ The clay and the red *pozzolana* of which they are made are carefully sifted and well mixed, or puddled. They

¹ The *arena* used for the mortar of the emissarium of Lake Fucino was, according to Brisse (*l.c.* p. 28), a ferruginous lake sand, although a good variety of *pozzolana* is found in the region, which, however, may not have been recognized by the Romans on account of its yellow color.

² For the source of triangular bricks and the method of preparation, see the previous paper, p. 236.

³ Vitr. *l.c.* V, X, 2.

⁴ The exact width of the bricks is as follows:

| Measurement in centimetres. | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 | 4.4 |
|-----------------------------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|
| Number of bricks. | 2 | 2 | 2 | 1 | 8 | 45 | 18 | 17 | 3 | 2 |

⁵ The source of the various facing bricks is often indicated by their length. Cf. the length of the roof-tile facing bricks of the Augustan period, p. 395.

are of medium fine texture and are well fired. Their color varies normally from a yellowish red to a reddish yellow, approaching, at times, a magenta yellow.¹ The mortar is slightly finer than in the body of the structure. The horizontal joints vary from 1.5 cm. to 2 cm. and are carefully raked. The vertical joints average a little more than 1 cm. No bonding courses appear.

The principal characteristics by which the monuments of *opus caementicium* of the time of Claudius are most readily distinguished from those of the preceding periods are: (1) the color of the mortar, and (2) the use of triangular bricks either alone or with *opus reticulatum*. They are, on the other hand, distinguishable, though less easily, from the monuments of Nero and the Flavians (1) by the presence of *opus reticulatum*, and (2) by the quality and width of the triangular bricks.

Nero. — During the earlier years of his reign, Nero displayed his passion for building in the magnificent group of monuments which he erected in the Campus Martius and in the vast palace by which he united the Palatine and the gardens of Maecenas on the Esquiline. In creating a new city, however, on the broad areas laid waste by the great fire, he for the first time found full opportunity for the gratification of his ambition. With the year 64, therefore, begins properly the second great building period of imperial Rome.

In order that his new capital might not be so easily swept away by another conflagration, Nero, by the expenditure of vast sums of money as well as by the establishment of a number of new building regulations,² brought about a series of changes which affected not only the general plan of the city but also the type of construction used in its new edifices. Of the changes affecting the city as a whole, the most important were:³ (1) the adoption of a new *piano regolatore*, at least for the centre of the city; (2) the widening and straightening of the streets and the creation of spacious open squares; (3) the isolation of the houses, by abolishing the use of "common walls" and by the introduction of colonnades, or porticos,

¹ The clear magenta red tone of the earlier tile bricks very rarely, if ever, appears in triangular bricks.

² Tac. *Ann.* XV, 43.

³ For these changes, see Tacitus, *l.c.*

along their fronts.¹ In connection with these more general changes, others of a more specific character took place, which were not without importance in their influence on the development of Roman construction. Among the most conspicuous of the results which attended these more specific changes were: (1) the more general adoption of peperino and other fireproof materials, especially for walls of *opus quadratum*; (2) the more intelligent choice of materials for the *caementa* of the various parts of concrete structures; and (3) the universal use at Rome, in public monuments, of triangular bricks for wall facing, in place of the less practical facing of *opus reticulatum* or roof-tiles.

Though it is clear, from the prescribed use of peperino,² that *opus quadratum* retained its place, in the new city, for certain buildings or parts of buildings, remains of structures made of it either alone or in combination with *opus caementicium* are rare. Monuments of *opus caementicium* faced with *opus testaceum* are, on the contrary, to be found on every hand.

The type of construction used in these monuments is very regular. The *caementa* consist almost entirely of refuse materials from the buildings destroyed by the fire. In the foundations and substructures,³ in the larger number of the monuments, travertine is used in great abundance,⁴ with a smaller quantity of reddish or light brown tufa, peperino, and *selce*. In certain parts of the domus Aurea, however, the *caementa* are almost wholly of *selce*. Small pieces of broken and charred marble and a few bricks are found also. The pieces are, as a rule, of medium size. In the walls, the *caementa* are almost wholly of broken roof-tiles and other bricks, of the same or earlier periods, laid in irregular rows. The *caementa* in the vaults are consistently of large pieces of yellowish gray tufa. The mortar is of a dark gray or reddish gray type,⁵ coarse in its composition and, at times, somewhat friable. The *arena* consists of an inferior quality of *pozzolana*, coarsely sifted and

¹ Nissen (*Pomp. Stud.* p. 371) calls attention to the introduction at Pompeii by Nero, a few years earlier, of similar colonnades.

² Tac., *l.c.*

³ See the previous paper, p. 234, Fig 2.

⁴ See the wall in the figure just referred to.

⁵ Cf. the ashy gray mortar of the republican period, *l.c.*, pp. 245, 247.

slightly *terrosa*, the prevailing tone of which is dark gray, but with an admixture of red, reddish brown, and white particles. The lime is of an inferior quality and, at times, is deficient in quantity also.

The facing of the walls in Rome¹ is, without exception, of *opus testaceum* made of triangular bricks (Fig. 3). These bricks



FIGURE 3. — FACING OF TRIANGULAR BRICKS OF THE TIME OF NERO.²

are normally from 3.9 cm. to 4.5 cm. wide, being rarely found less than 4 cm. The average width of 100 bricks³ from the

¹ Outside of Rome, as at Anzio, *opus reticulatum* also is used.

² From the domus Aurea.

³ The exact width of the bricks is as follows :

| Measurement in centimetres. | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 |
|-----------------------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 1 | 1 | 1 | 5 | 35 | 18 | 23 | 5 | 1 | 8 | 2 |

atrium Vestae, the domus Aurea, and the arcus Neroniani is 4.1 cm. and the mean deviation .1 cm. The length of the bricks is usually from 25 cm. to 28 cm., never, so far as seen, exceeding 30 cm.¹ Many broken bricks are, however, found, especially in the domus Aurea. The bricks are very poor in composition, consisting of a heterogeneous mass of clay and coarse *pozzolana*, badly mixed and full of holes. They are, however, well fired. They vary in color from reddish yellow to yellowish red and are conspicuous for their streaked and mottled appearance. The horizontal joints of mortar are normally from 1.5 cm. to 2 cm. wide and are, normally, raked. The vertical joints are somewhat irregular, but are commonly from .5 cm. to 1.5 cm.

Bonding courses of the wide yellow *bipedales* regularly used for the arches appear sporadically in the arcus Neroniani.

The principal monuments of *opus caementicium* of the period of which remains still exist are the following:²

The thermae of Nero (62 A.D.).³

The domus Transitoria: fragmentary walls on the Velia (?) (before 64 A.D.).

The atrium Vestae: the imperial atrium of the first period (64-68 A.D.).⁴

The shops on the north of the atrium Vestae (64-68 A.D.).⁵

The porticus along the Sacra Via on the Velia⁶ (64-68 A.D.).

The porticus along the clivus Palatinus⁷ (64-68 A.D.).

The domus Aurea (64-68 A.D.).

The Sette Sale (64-68 A.D.).

The arcus Neroniani (64-68 A.D.).

The general characteristics, or "earmarks," which distinguish the *opus caementicium* of the time of Nero are: (1) the

¹ Since the front of these bricks (*laterculi bessales*) is the diagonal of a square of 20 cm. to 22 cm., the greatest length possible is 31 cm.

² For the monuments included in this list, see p. 389, n. 5.

³ Nibby, *R.A.* II, 775-776.

⁴ Van Deman, *The Atrium Vestae*, pp. 19 f. and Plan A.

⁵ Van Deman, *l.c.*, pp. 18, 19. These shops form part of an extensive group on the Velia, which will be discussed at a later time.

⁶ The massive substructures of unfaced concrete opposite the basilica of Constantine formed the foundations for the porticus on the south side of the Sacra Via. Traces of a corresponding porticus exist on the opposite side.

⁷ This porticus is the continuation of that just described (n. 6).

dark gray tone of the mortar, and (2) the poor composition, porosity, and mottled appearance of the bricks, as well as their width.

Vespasian.—With the rise of Vespasian to imperial power, a period of wise conservation and reorganization began throughout the realm. A new impulse was given also to the rebuilding of the city, still half buried in ruins,¹ and to the restoration of the public utilities, so sadly neglected by Nero.

In the history of construction, likewise, the reign of Vespasian is one of reorganization, marked not so much by the introduction of new materials and methods as by the intelligent and economical use and skilful combination of those already existing. That this was the result not only of regard for economy but also of sound knowledge is shown by the retention of the same type of construction throughout the whole of the Flavian period.

The most important of the changes which were brought about by the building policy of Vespasian were: (1) the selection of *selce* as the preferred material for the *caementa* of foundations and other massive construction; (2) the reintroduction of the earlier clean red *pozzolana* in place of the poorer grayish variety used in the buildings of Nero; and (3) the adoption of a narrower and more homogeneous type of triangular bricks for the facing of walls.

Opus quadratum appears prominently in the public monuments of the time, and in the Colosseum is united in a most effective way with the massive walls of *opus caementicium*. The remains of the forum of Peace and of the temple of Sacra Urbs are wholly, at least above ground, of *opus quadratum*. The aqua Claudia and the Anio Novus are, on the other hand, restored in *opus caementicium* faced with triangular bricks.

The *opus caementicium*, though lacking the technical perfection of the next general period, is of a good quality. The *caementa* of the foundations are almost wholly, so far as seen, of *selce*. The pieces are of medium size and are laid with no attempt at order. In the walls, the *caementa* are normally of triangular bricks of the same or of the earlier period, which are laid on

¹ See Tac. *Ann.* XV, 41. Suet. *Vesp.* VIII, 5; IX, 1.

the flat side in somewhat even rows. Flanged tiles are also found and occasionally other old materials, as tufa or travertine. The vaults are constructed wholly of *caementa* made of large pieces of yellowish gray tufa.¹ The mortar is of a dirty-white and red type. While not as fine grained as in the

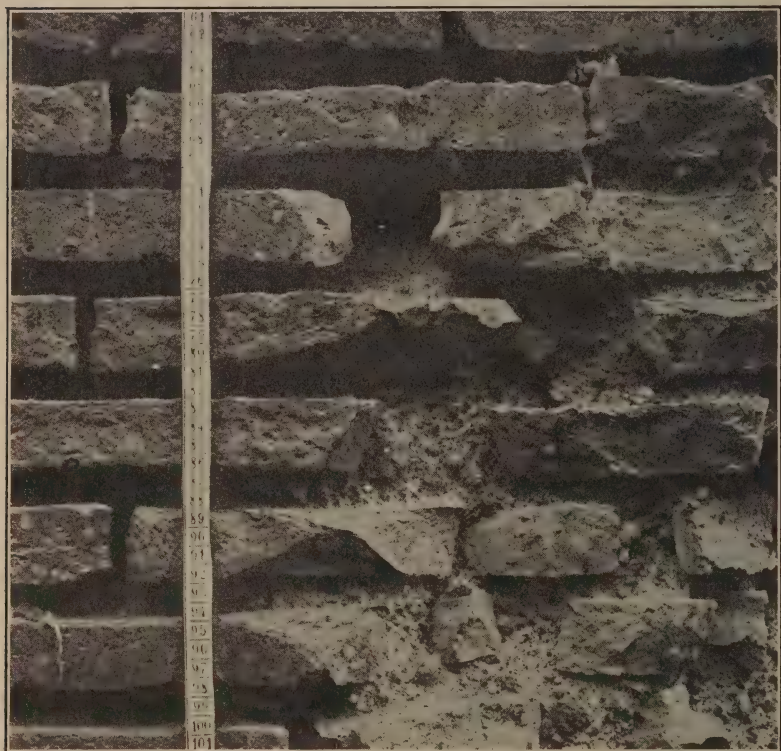


FIGURE 4.—FACING OF TRIANGULAR BRICKS OF THE TIME OF VESPASIAN.²

following period,³ it is firm and tenacious. The *pozzolana-arena* is sharp-angled and clean, though, at times, very coarse. Its predominating color is red, though reddish brown and gray particles appear also.

¹ The character of the *caementa* is very important in the upper stories of the Colosseum, where by contrast the restorations are most easily recognized in the small pieces of dark pumice stone used for the *caementa*.

² From the Colosseum. The distance is 1 m. instead of 1.5 m. as in the other figures.

³ Cf. the periods of Trajan and Hadrian, pp. 415, 418.

The facing is of *opus testaceum* of triangular bricks (Fig. 4), with almost no admixture of old material.¹ The bricks are usually from 3.7 cm. to 4.2 cm. wide. The average width of 100² from the Colosseum is 3.9 cm. and the mean deviation .1 cm. Their length varies from 20 cm. to 30 cm. They are much more homogeneous in composition and of far finer texture than the bricks of the Neronian time. In color they vary from reddish yellow to yellowish red, but are comparatively free from the streaked and mottled appearance so noticeable in the bricks of the time of Nero. They are hard baked and weather well, showing little tendency to disintegration. The horizontal mortar joints are somewhat closer than in the Neronian walls, varying from 1.2 cm. to 1.7 cm. and are carefully raked. The vertical joints average a little less than 1 cm.

Bonding courses do not appear in any of the walls of the time.

The principal monuments or parts of monuments of the time of Vespasian which are made of *opus caementicium* are the following:

The aquae Claudia and Anio Novus: general restorations (71 A.D.).

The Colosseum: the substructures, the inner walls of the first and second stories, and of a part of the third story (78 A.D.).

The porticus (?) north of the Colosseum: fragmentary walls (78 A.D.).

The cloaca in front of the Colosseum (78 A.D.).³

The porticus Claudia (?).⁴

The principal characteristics by which the *opus caementicium* of the time of Vespasian⁵ is most readily distinguished from that

¹ Cf. the period of Maxentius, p. 431.

² The exact width of the bricks is as follows:

| Measurement in centimetres. | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 |
|-----------------------------|-----|-----|-----|-----|----|-----|-----|-----|
| Number of bricks. | 2 | 9 | 11 | 21 | 47 | 4 | 4 | 2 |

³ Narducci, *Fognatura di Roma*, p. 68.

⁴ Platner, *Top.* (1911), p. 439.

⁵ The distinctive characteristics of the whole Flavian age are the same as those of the time of Vespasian, except for the appearance, in the time of Domitian, of bonding courses.

of the Neronian period are: (1) the dirty-white and red color of the mortar, and (2) the width and composition of the bricks. The absence of bonding courses is the only noticeable difference between the *opus caementicium* of the time of Vespasian and that of the later Flavian emperors.

Titus. — Titus, succeeding quietly to his father's rule, sought, for the most part, merely to carry out the undertakings already begun. A few new public monuments were, however, erected by him. The most important of these monuments, two of which were left unfinished at his death, were the *thermae Titianae*, and the temple of Vespasian with the *porticus Deorum Consentium* adjoining it. He restored, also, the Marcian and the Claudian aqueducts. Of the other monuments built during his reign, but two are of especial importance, the arches of Titus in the Circus Maximus and on the Velia.

To the art of building not only did Titus' short reign of two years contribute nothing, but the changes so wisely inaugurated by Vespasian lost much of their force in the hands of his less efficient son. This is to be seen most clearly in the hasty choice of materials and in the careless methods of construction, especially noticeable in the *porticus Deorum Consentium*, to which no less than to the *thermae* might be applied Martial's well known expression *velocia munera*.¹

As in the time of Vespasian, *opus quadratum* maintained its place in a few monuments, though of little structural value in comparison with the *opus caementicium* with which it was united. The restoration of the aqua Marcia was wholly in *opus caementicium*.

In general type, the *opus caementicium* does not differ from that of the time of Vespasian. For the *caementa*, however, much more old material was used. In the few remaining arches of the restoration of the aqua Marcia inside the city, for example, they consist almost wholly of *opus reticulatum* blocks of yellowish gray tufa, belonging to earlier republican houses in the vicinity. The mortar also is less homogeneous, as well as less tenacious than earlier, on account of the earthy nature of the *pozzolana-arena* used. The facing of the walls does not differ from that of Vespasian's time, except in the

¹ *Spect.* 2. Cf. Suet. *Tit.* 7: *thermisque iuxta celeriter exstructis.*

more frequent appearance of older material. The triangular bricks used are normally from 3.7 cm. to 4.1 cm. wide. The average width of 25¹ from the restored arches of the aqua Marcia inside the city and the porticus Deorum Consensuum is 3.9 cm. and the mean deviation .1 cm. The joints of mortar, both horizontal and vertical, are very irregular in width.

The monuments or parts of monuments of the time which are built of *opus caementicium* are the following:

The aqua Marcia: the restored arches, especially those near the porta Tiburtina (79 A.D.).²

The temple of Vespasian: the podium.³

The porticus of the Dei Consentes: the lower rooms.⁴

The arch of Titus on the Velia: the foundations.⁵

The thermae of Titus: a few fragmentary walls (?) (81 A.D.).

No specific characteristics have as yet been found by which the *opus caementicium* of this time may be distinguished with certainty from that of the other Flavian emperors.

Domitian. — The new city was arising slowly from the ashes of the fire of Nero, when, in 80 A.D., it suffered from a second conflagration, which not only destroyed many of the newly restored monuments, but swept over much of the city which had before escaped destruction. In the rebuilding of the monuments thus destroyed and the erection of splendid new ones in every part of the city, Domitian found ample opportunity to gratify his feverish passion for building.⁶

But although, in the number and magnificence of its monuments, the reign of Domitian may be regarded as one of the great building periods of Rome, it contributed little to the

¹ The exact width of the bricks is as follows:

| Measurement in centimetres. | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 |
|-----------------------------|-----|-----|-----|-----|----|-----|-----|
| Number of bricks. | 1 | 1 | 5 | 3 | 13 | 1 | 1 |

² The walls inside the earlier arches of the aqua Marcia are the best work which is left of the time of Titus.

³ The temple was finished by Domitian.

⁴ The porticus seems to have been finished by Domitian.

⁵ The arch was finished by Domitian.

⁶ Plutarch (*Popl.* 15) applies the name *νόσος* to this passion.

development of the art of construction. *Opus quadratum* retains a prominent place, though there is a perceptible decrease in the amount used in the buildings where it is united with *opus caementicium*. A larger number of important monuments are, moreover, built wholly of *opus caementicium*, as, for example, the so-called temple of Augustus, the atrium Vestae of the



FIGURE 5.—FACING OF TRIANGULAR BRICKS OF THE TIME OF DOMITIAN.¹

second period, the palaces on the Palatine, and the stadium in the Campus Martius.

In type, the *opus caementicium* of Domitian resembles closely that of the time of Vespasian. The *caementa*,² however, show

¹ From the domus Augustana. Cf. the previous paper, p. 233, Fig. 1; p. 238, Fig. 4; p. 240, Fig. 6.

² The use of yellowish gray tufa for the *caementa* of one of the walls of the ramp leading from the temple of Augustus to the Palatine is very exceptional. For the *caementa* of the period, see the previous paper, p. 249, Fig. 8.

a larger proportion of broken triangular bricks and marble. The mortar is the same in composition and color, but is somewhat coarser, especially in foundations.

The facing (Fig. 5) does not differ in type from that of Vespasian.¹ The bricks are normally from 3.6 cm. to 4.2 cm. wide. The average width of 200² from the so-called temple of Augustus, the atrium Vestae, the domus Augustana, and the Meta Sudans is 3.9 cm. and the mean deviation .1 cm. The length varies normally from 25 cm. to 29 cm., never exceeding, so far as seen, 30 cm. The horizontal mortar joints vary from 1.3 cm. to 1.8 cm. and are, normally, raked. The vertical joints are from .5 cm. to 1.2 cm. wide.

Bonding courses are introduced at regular intervals, commonly 16 to 18 or 28 to 30 courses apart, and extend through the whole width of the wall. They are made of heavy *bipedales*, 4.5 cm. to 5 cm. thick, and are of a light yellow or a magenta yellow color.

The monuments or parts of monuments of the period in which *opus caementicium* is used are the following:

The so-called temple of Augustus³ and the library adjoining it (before 90 A.D.).

The temple of Vesta: the *favissa* (before 91 A.D.).

The atrium Vestae: the imperial atrium of the second period (before 91 A.D.).⁴

The Equus Domitiani: the foundations⁵ (91 A.D.).

The domus Augustana (before 92 A.D.).

The Hippodromus on the Palatine (before 92 A.D.).

The Meta Sudans (97 A.D.).

The temple of Vespasian: the portion left incomplete by Titus.

¹ In the villa of Domitian at Castel Gondolfo, the facing is of *opus reticulatum* and *opus testaceum*.

² The exact width of the bricks is as follows:

| Measurement in centimetres. | 3 | 3.2 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 |
|-----------------------------|---|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Number of bricks. | 1 | 1 | 1 | 6 | 10 | 17 | 31 | 29 | 81 | 13 | 9 | 1 |

³ This monument will be discussed in a following paper.

⁴ Van Deman, *The Atrium Vestae*, pp. 21 ff. and Plan B.

⁵ See the previous paper, p. 249, Fig. 8.

The porticus Deorum Consentium: the upper story.

The small room between the temples of Vespasian and Concord (?).¹

The house of Avidius Quietus.²

The stadium in the Campus Martius (?) (not yet classified).

The tomb of Domitilla (?) (not yet classified).

The restorations of the aquae Marcia and Claudia (not yet classified).

In the monuments of *opus caementicium* of the time of Domitian, when compared with those of the earlier Flavian period, no distinctive characteristics are found, apart from the use of bonding courses. When compared with the monuments of the succeeding periods, however, the buildings of Domitian's time, like those of the time of the earlier Flavian emperors, are easily distinguished by the type of the mortar, as well as by the use of triangular facing bricks.

VII. THE PERIOD OF THE REVIVAL OF ROOF-TILE FACING (TRAJAN-MARCUS AURELIUS)³

Trajan. — In the monuments which bear the name of Trajan, few in number but conspicuous for their refinement in architectural forms and in construction, one recognizes the expression of a genius but little akin to that which produced the strong but cruder monuments of the Flavian age. It is probable that to the Syrian Greek, Apollodorus, is due the appearance of the new artistic feeling, which, being allowed full play by the emperor Trajan, brought the Roman art of building in concrete to its fullest development.

No distinctly new principles and few, if any, new materials and methods were, so far as can be determined, introduced. On the contrary, Apollodorus, retaining those which had been proved of real value during the preceding half century, evolved from them a higher type of construction, by uniting with them certain materials and methods from the earlier age of Augustus.

¹ This room may have been built by Titus.

² Hülsen-Jordan, *Top.* p. 344, n. 2.

³ The failure to recognize the existence of two distinct periods of roof-tile facing has led to many of the errors in the chronology of the monuments.

The main features in the monuments of the period which mark an advance in the type of construction are :

(1) The abandonment of the use of *opus quadratum* for points of special pressure, as well as for external walls.

(2) The marvellous adaptation not only of the different materials but of the different grades of the same material to the structural demands of the various buildings or parts of a single building.

(3) The finished technique, especially noticeable in the fineness and homogeneous quality of the mortar used in the various parts of the structures, as well as in the regularity and beauty of the facing.¹

(4) The extensive use of sawed roof-tiles not only for the facing but also for the decorative parts even of important public monuments.

While *opus quadratum* continued to be used in certain parts, at least, of many monumental structures, the age of Trajan is especially marked by the extension of the use of *opus caementicium* to all classes of buildings, including aqueducts and other monuments of engineering.²

The *opus caementicium* of this time differs much both in appearance and in quality from that of the Flavian Age. The *caementa* in the foundations, where these are to be seen, are of *selce*, with which is mixed occasionally a little travertine. The pieces are of medium size. In the walls broken bricks of all kinds are found, which are laid in close, though somewhat irregular, rows.³ For the vaults, as earlier, yellowish gray tufa is used. The mortar is of a clean-white and red type, very compact and almost flint-like in hardness. The *arena* is composed of a clean red *pozzolana*, with a slight admixture of reddish brown and gray particles. It is very "sharp," finely sifted, and free from any earthy quality.⁴ The lime is more abundant

¹ Of the concrete monuments in Rome, the most conspicuous for the elegance as well as the excellence of their construction are the forum of Trajan and the amphitheatrum Castrense.

² For the general value assigned to *opus caementicium* faced with *opus testaceum*, see Pliny, *Ep. ad Traianum*, XXXVII, 2; XXXIX, 4.

³ In the aqua Traiana near the city, the reddish brown tufa of which the *opus reticulatum* of the facing is made is used also for the *caementa*.

⁴ It is probable that the *pozzolana* was washed to remove the fine dust so noticeable in the mortar of the time of Augustus. See p. 392.

than earlier and is very clean and white, being excelled in whiteness only by that used in the monuments of the time of Hadrian.

The facing is normally of *opus testaceum* made of broken roof-tiles, with which, in a few monuments, *opus reticulatum* is mixed.¹ These tile bricks are narrower than those of the earlier period. They tend, also, more often, to approach the triangular form. They are normally from 3.3 cm. to 4.1 cm. wide. The average width of 200² from the five more important monuments of the time is 3.7 cm. and the mean deviation .2 cm. Their length varies usually from 20 cm. to 33 cm.³ In composition they differ but slightly from the earlier type. They are of a very fine texture and are well fired, having a metallic ring when struck. Their color is commonly magenta red, though of a slightly lighter tone than that of the earlier tile bricks. A small number also are of a yellowish magenta or clear yellow color.⁴ The width of the horizontal joints of mortar is normally from .7 cm. to 1.5 cm., and of the vertical joints, from .5 cm. to .8 cm. The horizontal joints are carefully raked.

In several monuments of the time, a finer variety of facing is used for the fronts of the walls. The tile bricks used in this facing, however, do not differ in kind from those just described. The horizontal mortar joints are, however, very close, varying from .3 cm. to .7 cm., while the vertical joints are almost invisible.

¹ The most important of the monuments in which *opus reticulatum* is found are the aqua Traiana and the Naumachia (Hülse-Jordan, *l.c.* pp. 660 f.). It appears also in a single wall in the *thermae*.

² The exact width of the bricks is as follows :

| Measurement in centimetres. | 3 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 1 | 2 | 6 | 12 | 18 | 32 | 20 | 21 |
| Measurement in centimetres. | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 | 4.5 | 5 |
| Number of bricks. | 28 | 23 | 26 | 7 | 1 | 1 | 1 | 1 |

³ Cf. the length of triangular bricks, pp. 402, 406, 409, 413.

⁴ It is possible that these bricks may be made in part from *bipedales*.

Bonding courses of the thick, light-colored *bipedales* used for arches occur regularly in the Forum, but are found less often in the other monuments.

The monuments or parts of monuments of the time which are made of *opus caementicium* are the following:

The thermae of Trajan (of an early date).

The aqua Traiana (109–10 A.D.).¹

The thermae of Sura (109–10 A.D.).²

The arch of Trajan: the foundations.³

The forum of Trajan: the foundations, and the walls of the hemicycles (112–14 A.D.).

The basilica Ulpia: the foundations (112–14 A.D.).

The column of Trajan: the foundations (112–14 A.D.).

The bibliothecae: the foundations and a part of the walls (112–14 A.D.).

The extension of the Circus Maximus: probable walls at the east end.

The Naumachia.⁴

The extension of the aqua Marcia to the Aventine: arches near the Porta Capena.⁵

The amphitheatrum Castrense.⁶

The main characteristics which distinguish the monuments of *opus caementicium* of this time from those of the preceding period are (1) the clean-white and red color of the mortar as well as its fine composition and flint-like hardness, and (2) the use of roof-tile facing bricks. No marked differences are found, on the other hand, between the type of construction of this time and that of the time of Hadrian.

Hadrian. — During the early years of his reign, Hadrian conformed his policy in general to that of his predecessor and kinsman. The earlier monuments, therefore, erected under the

¹ The data for the aqua Traiana are not as yet complete.

² The data for the thermae of Sura are as yet incomplete.

³ Pellegrini *ap.* Jordan, *Top.* I, 2, p. 457, n. 26.

⁴ Hülsen-Jordan, *l.c.* pp. 660 f. *Cf.* Durm, *Baukunst der Römer* (1904), p. 699, Fig. 766.

⁵ The data for this monument are as yet incomplete.

⁶ The assignment by Hülsen (Hülsen-Jordan, *l.c.* p. 249, n. 74) of the amphitheatrum Castrense to Trajan is proved correct by many structural as well as architectural peculiarities of the monument.

influence of the building traditions of the previous period, if not under the immediate direction of its great architect, Apollodorus, differ but little from those of the time of Trajan. The later monuments, on the other hand, erected by the emperor after his years of travel and study of the monuments of other lands, resemble less closely those of the preceding period. Their gain in originality is, however, counterbalanced by a noticeable loss in perfection of form and technique, owing, possibly, to the fall from favor, at this time, of the master architect, Apollodorus.

Although no period did more to assist in the extension of the use of Roman concrete, few, if any, important contributions were made to the history of the development of the construction. The materials and methods of the time of Trajan were, in the main, adopted without change. In a few of the later monuments, however, triangular bricks were again used.¹

Monuments built wholly or in part of *opus quadratum* are rare. For all classes of structures, on the other hand, *opus caementicium* was regularly used.

Throughout the whole period the *opus caementicium* is conspicuous for its uniformity, even in details.² The *caementa* in the foundations are almost entirely of *selce*, except in a very few walls on the Palatine, where a large amount of broken travertine and marble appears. In the temple of Venus and Rome also, tufa was substituted for *selce* in the portions of the podium upon which the lighter parts of the superstructure rested. The *caementa* of the walls are commonly of bricks of various kinds laid in closely packed rows. In the walls of the porticus of the domus Augustana, however, much broken marble and travertine is found. For the *caementa* in vaults, the lighter tufas were used. The mortar is of the clean-white and red type, and is conspicuous for its fine composition, cohesiveness, and rock-like hardness. The *pozzolana-arena* is sharp-angled, fine, and noticeably clean, being possibly washed as well as sifted. Its predominating color is red, though,

¹ See below, p. 420.

² This uniformity, which is noticeable also in the buildings of the period in other lands, was probably due to the personal interest of the emperor in the erection of public monuments.

in certain monuments, considerable reddish brown and gray appear. The lime is exceptional in its fine quality and clear white color.

The facing of the greater number of the monuments of the period in Rome¹ is *opus testaceum* (Fig. 6), though in a few

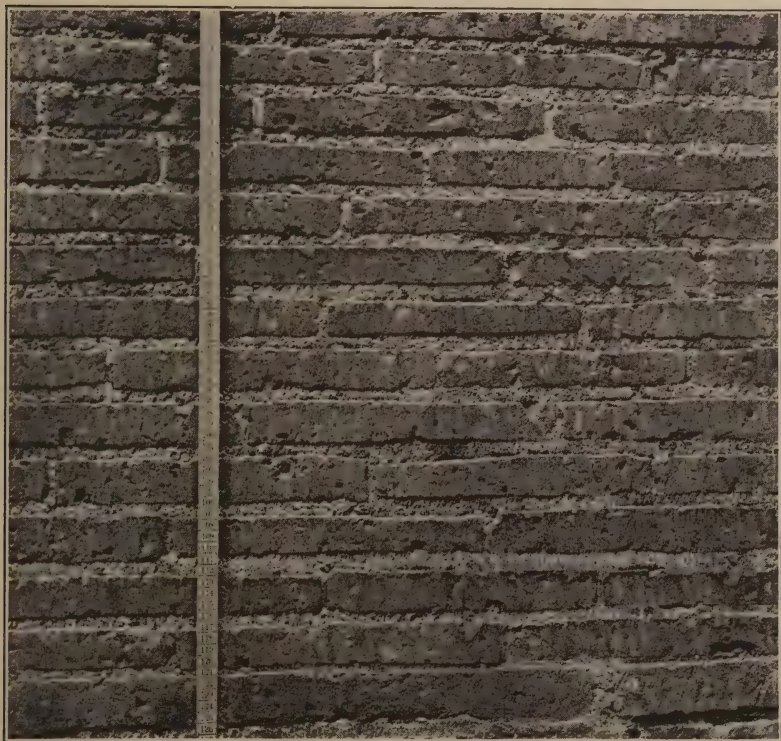


FIGURE 6. — ROOF-TILE FACING OF THE TIME OF HADRIAN.²

cases *opus reticulatum* appears.³ In the more important monuments, the *opus testaceum* is made wholly of broken roof-tiles of the same type as those used earlier. These bricks do not differ materially in width from those of the time of Trajan,

¹The use of *opus reticulatum* is more common in the vicinity of Rome than in the city itself. In the villa at Tivoli *opus reticulatum*, *opus reticulatum* with *opus testaceum*, and *opus testaceum* are all used.

²From the Pantheon.

³*Opus reticulatum* appears in the walls at the northeast corner of the Palatine, and in the domus Cilonis (Hülsen-Jordan, *l.c.* p. 188, n. 15 a).

varying normally from 3.3 cm. to 4 cm. The average width of 100¹ from the Pantheon, which may be accepted as typical, is 3.7 cm. and the mean deviation .2 cm. They vary in length from 25 cm. to 35 cm.² In composition, texture, and color, they resemble, in general, the tile bricks of the previous period. They are, as a rule, however, much less carefully fired. The mortar is somewhat finer than that used in the body of the structure. The horizontal joints are usually from 1 cm. to 1.6 cm. wide and are carefully raked. The vertical joints vary from .5 cm. to .9 cm.

In a small number of walls of the time in the domus Augustana on the Palatine,³ the facing is of triangular bricks. These triangular bricks, while they resemble, in general, those of the earlier period, are marked by certain distinctive characteristics.⁴ They differ noticeably in width, seldom exceeding 3.6 cm. or 3.7 cm. The average width of 25,⁵ which are fairly typical, is 3.5 cm. and the mean deviation .1 cm. In length they show, naturally, no difference from the earlier type, since they are made from similar *bessales*, 20-22 cm. square. They are, however, more homogeneous in composition, of finer texture and, as a rule, better puddled; they are equally well fired. In color they vary, as earlier, from yellowish red to reddish

¹ The exact width of the bricks is as follows :

| Measurement in centimetres. | 2.8 | 3 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.2 | 4.3 |
|-----------------------------|-----|---|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Number of bricks. | 1 | 1 | 5 | 9 | 15 | 10 | 14 | 16 | 6 | 16 | 4 | 2 | 1 |

² As a means of distinguishing the various types of facing bricks, the length is very important.

³ A part of the cross walls of the colonnade on the west. For one of these walls, see the previous paper, p. 238, Fig. 4. Other important walls of the same type will be discussed in a later article.

⁴ Cf. the triangular bricks of Claudius (p. 402), Nero (p. 405), and the Flavians (p. 409).

⁵ The exact width of the bricks is as follows :

| Measurement in centimetres. | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 2 | 5 | 4 | 5 | 4 | 2 | 3 |

yellow, but are largely free from the mottled and streaked appearance especially characteristic of the Neronian bricks. The mortar in the body of the structure and in the facing is the same as that in the walls faced with roof-tiles.

The monuments or parts of monuments of this time for which *opus caementicium* was used are the following :

The temple of Trajan : the foundations (*ca.* 119 A.D.).¹

The Pantheon (126 A.D. or later).

The thermae of Agrippa : the walls immediately behind the Pantheon (126 A.D. or later).²

The temple of Venus and Rome : the podium (135 A.D.).

The domus Augustana : the cross walls of the colonnade and a number of walls inside the building (135 A.D. or later).

The mausoleum of Hadrian (138 A.D.).

The atrium Vestae : the imperial atrium of the third period.³

The domus Cilonis.⁴

The walls at the northeast corner of the Palatine.⁵

The more regular use of bonding courses is the only marked characteristic by which the monuments of *opus caementicium* of the time of Hadrian may be distinguished from those of the periods immediately preceding and following it.

Antoninus Pius-Commodus. — The number of monuments of the time of the Antonines which are made either wholly or in part of *opus caementicium* is very small. The type of construction in these monuments is identical, except for the absence of bonding courses, with that used in the time of Hadrian.

The only important monuments of the time, as yet identified, in which *opus caementicium* appears are :

The temple of Antoninus and Faustina : the foundations.

The atrium Vestae : the imperial atrium of the fourth period.⁶

¹ *Bull. d. Ist.* 1869, p. 237 ; *Not. Scav.* 1886, pp. 158 ff.

² No trace has been found as yet of the original walls of the time of Agrippa.

³ Van Deman, *l.c.* pp. 33 f. and Plan C.

⁴ Hülsen-Jordan, *l.c.* p. 188, n. 15 a.

⁵ These walls are correctly assigned by Richter (*Top.* p. 151) to the time of Hadrian.

⁶ Van Deman, *l.c.* p. 42 and Plan D.

VIII. THE PERIOD OF FACING BRICKS OF BROKEN BIPEDALES (SEPTIMIUS SEVERUS-DIOCLETIAN)¹

Septimius Severus-Alexander Severus.—More than a century had elapsed after the great fire of Titus, when Rome suffered again severely, in the reign of Commodus, from two fires, which laid waste a large part of the centre of the city. To the rebuilding of the monuments which had been wholly or in part destroyed, Septimius Severus and the other rulers of his house devoted much energy. Many magnificent new monuments also were erected by them, conspicuous among which were the palaces on the Palatine, the Septizonium, the *thermae* of Severus, and the *thermae* of Caracalla with the *aqua Antoniniana*.

The revival of building activity which found expression in these monuments was accompanied by certain important changes in the materials and methods of construction, which, though advantageous from the standpoint of utility, marked a decline in the beauty of the technique. The most striking of these changes are (1) the adoption of various kinds of tufa in place of bricks for the *caementa* in the body of the structures, with the use of pumice stone for the vaults, and (2) the introduction of facing bricks made of *bipedales*.

Opus quadratum was used very rarely and, except in a few monuments,² wholly for decorative purposes. For the structural parts of all classes of buildings, *opus caementicium* was almost universally used.

The *opus caementicium* varies little in type throughout the period. The *caementa* of the foundations and other massive parts of the structures are, where seen, of *selce*, except in the temple and atrium of *Vesta*,³ where much broken and charred marble, travertine, and tufa appear, the refuse materials from the earlier buildings destroyed by the fire of 191 A.D. In the walls, the harder varieties of tufa are used frequently for

¹ It is probable that the monuments of Aurelian are to be excluded from this group. See p. 427.

² The most important of these is the arch of *Sevêrus* in the Forum, the foundations of which are of *opus quadratum*.

³ The atrium *Vestae* of this period is throughout of a very careless type of construction.

caementa in place of bricks. In the vaults, much pumice stone¹ appears, in addition to the yellowish gray tufa. The *caementa* in all parts of the buildings are noticeably smaller and less frequent than earlier. The mortar is a poorer variety of the red and white type of the preceding period. The *pozzolana-arena* is

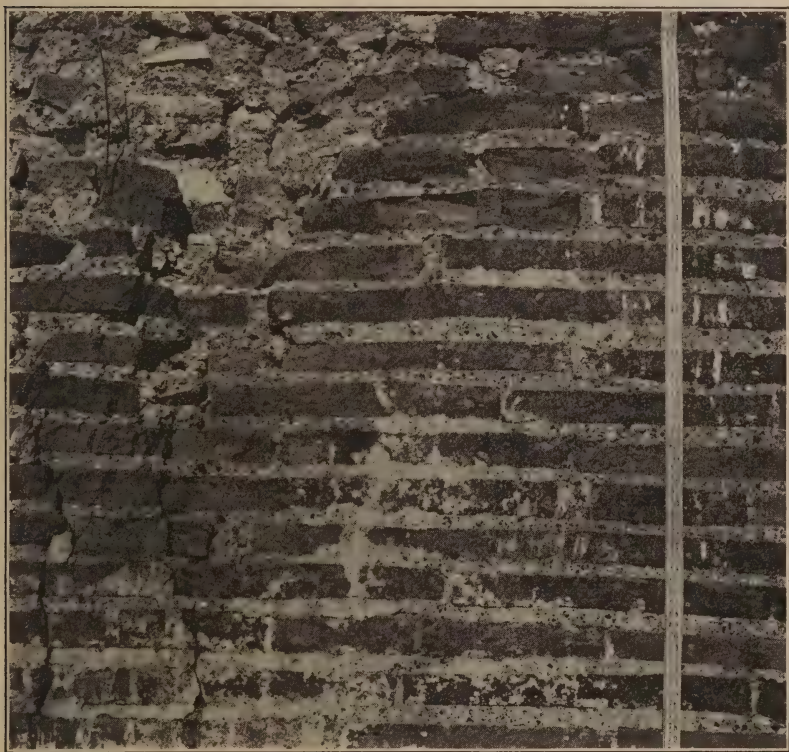


FIGURE 7.—BRICK FACING OF THE TIME OF SEPTIMIUS SEVERUS.²

clean and very coarse, giving to the mortar its peculiar speckled appearance.³ The predominating color is red, though reddish brown and gray appear also. The lime is clean, though less white than in the preceding period.

The facing bricks are made regularly of broken *bipediales* (Fig. 7). In the atrium Vestae, however, and in the upper part

¹ Good examples of the use of pumice stone are to be found in the *thermae* of Caracalla and in the upper corridors of the Colosseum.

² From the palace on the Palatine. Cf. the previous paper, p. 233, Fig. 1; p. 240, Fig. 6.

³ See Fig. 7.

of the palace on the Palatine,¹ a considerable number of the earlier tile bricks are used, with a small amount of other older material. The shape of the bricks tends to approach the triangular form but the fronts only are sawed. They vary in



FIGURE 8. — FACING BRICKS OF THE TIME OF CARACALLA.²

width, in the monuments of Septimius Severus, from 2.3 cm. to 3 cm. The average width of 100³ from the palace on the

¹ On account of the later restorations the original walls of the upper part of the palace are very hard to determine.

² From thermae of Caracalla.

³ The exact width of the bricks is as follows :

| Measurement in centimetres. | 1.8 | 2 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 1 | 1 | 2 | 2 | 3 | 1 | 12 | 8 | 14 |
| Measurement in centimetres. | 2.8 | 2.9 | 3 | 3.1 | 3.2 | 3.3 | 3.5 | 3.7 | 3.8 |
| Number of bricks. | 8 | 5 | 24 | 4 | 4 | 4 | 4 | 1 | 2 |

Palatine and the restored portions of the arcus Neroniani is 2.8 cm., and the mean deviation .26 cm. In the monuments of the later rulers of the family, a heavier type of *bipedales* was used (Fig. 8); the facing bricks are, therefore, wider, varying normally from 2.9 cm. to 3.5 cm. The average width of 100¹ from the thermae of Caracalla is 3.2 cm. and the mean deviation .2 cm. Owing to the nature of the material, the length of the bricks varies greatly, but is usually from 25 cm. to 33 or 34 cm.²

Though these facing bricks resemble most nearly those made of roof-tiles, their composition is much less homogeneous, and the materials are coarser and less well mixed. Their texture is less fine, also, approaching at times that of the triangular bricks. They are, however, hard and carefully fired. Their color varies from the dark magenta of the roof-tile facing bricks to a yellowish magenta or magenta yellow. The mortar is of the same type as in the body of the walls, though at times a trifle finer. The horizontal joints are wide, increasing in proportion as the width of the bricks diminishes. They vary usually from .4 cm. to 2.5 cm., and the vertical joints from .5 cm. to 2 cm.

Bonding courses of the same type of *bipedales*³ as those used for the facing bricks occur regularly in all the monuments.

A few of the walls near the caldarium in the thermae, and the lower part of a few of the remaining arches of the aqua Antoniniana are faced with bricks made from a heavier type of *bipedales*.⁴ These bricks are from 3.5 cm. to 4.5 cm. wide, and from 20 cm. to 35 cm. long. They are coarse in composi-

¹ The exact width of the bricks is as follows:

| Measurement in centimetres. | 2.2 | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 3 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 |
|--------------------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Number of bricks. | 3 | 1 | 1 | 1 | 1 | 4 | 23 | 13 | 14 | 15 | 9 | 9 | 1 | 4 | 1 |

² In 150 bricks, chosen in groups of 5 or 10, the length of 39 exceeds 31 cm., the limit of the length of triangular bricks. Cf. p. 406, n. 1.

³ The bonding courses of the atrium Vestae are of the earlier yellow type.

⁴ The presence of these bricks has led to some confusion concerning the date of this part of the thermae. The walls in which they are found are, however, of the same period as the rest of the building.

tion and of loose texture, but are usually well fired. Their color varies from yellow or pinkish yellow to light magenta.

The principal monuments or parts of monuments made of *opus caementicium* which belong to this time are the following:

Restored portions of the arcus Neroniani (201 A.D.).

Restored portions of the Pantheon: walls on the west side (202 A.D.).

The palace of Septimius Severus on the Palatine: the arches of the Belvedere and the upper rooms adjoining the stadium (*ca.* 203 A.D.).¹

Restored portions of the Hippodromus on the Palatine (*ca.* 203 A.D.).

The temple of Vesta: the upper portion of the podium (early in the reign of Septimius Severus).

The atrium Vestae: the imperial atrium of the fifth period (early in the reign of Septimius Severus).²

The wall in the rear of the templum Sacrae Urbis.

The thermae of Caracalla (216 A.D.).

The aqua Antoniniana: arches behind the thermae of Caracalla (212-13 A.D.).

The peribolus of the thermae of Caracalla (built by Elagabalus and Alexander Severus).

The aqua Alexandrina (226 A.D.).³

Restored portions of the Colosseum: the substructures and a large part of the upper stories.

The restored arches of the aqua Marcia near the porta Tiburtina.⁴

The main characteristics by which the monuments of *opus caementicium* of this time may be distinguished from those of the earlier periods are: (1) The smallness of the size of the *caementa* in all parts of the structure, and the use for them of various varieties of tufa and of pumice stone, (2) the use of facing bricks made of *bipedales*, and (3) the decrease in the width of the bricks as well as the corresponding increase in the

¹ The work of Septimius Severus in this part of the Palatine is much less extensive than is usually held.

² Van Deman, *l.c.* p. 45 and Plan E.

³ The data concerning the aqua Alexandrina are not as yet complete.

⁴ The data concerning the restoration of the aqua Marcia are not as yet complete.

width of the mortar. No very noticeable differences exist between the monuments of this period and of the two periods immediately following.

Aurelian. — On account of the vast amount of the material to be considered, no final conclusions have as yet been reached concerning the materials and methods of construction used in the monuments of the time of Aurelian.¹

Diocletian. — Of the monuments rebuilt or restored by Diocletian after the fire of 283 A.D., the curia alone displays indubitable evidence of his work. By rare good fortune, however, the great monument bearing his name, for which a whole district of the city was destroyed and upon which vast sums of money were expended,² is still in large part preserved. From this monument, with the curia, are derived the data upon which the conclusions here given are based.

While showing a rapid decline in technical finish and elegance, the *thermae*, and the *curia* in a lesser degree, are yet conspicuous in the maintenance of a certain uniformity in materials and methods entirely lacking in the great concrete structures of Maxentius, erected less than a decade later. The *thermae* and the *curia* are the last monuments also in which the materials, even of the external facing, belong in any considerable part to the time of the erection of the monument.

In general type, the *opus caementicium* of the body of the structures is not noticeably different from that of the earlier part of the century. The *caementa* of the walls³ consist in large part of small pieces of brick of every variety laid in comparatively even rows. In the *thermae* are found also, at times, a considerable quantity of broken pieces of tufa and other stones, many of which show their earlier use in the walls of *opus reticulatum* of the republican and Augustan houses destroyed to give place for the baths.⁴ The *caementa* of the vaults of the *thermae*⁵ are of yellowish gray and light red

¹ The larger part of the existing remains of the Aurelian wall are the work of Aurelian, and not, as is generally held, of Honorius. The *thermae* of Caracalla were also extensively restored by him.

² C.I.L. VI, 1130 (= 31242): *Thermas . . . coemptis aedificiis pro tanti operis magnitudine omni cultu perfectas Romanis suis dedicaverunt.*

³ No foundations are visible.

⁴ See above, n. 2.

⁵ No vaults are visible in the curia.

tufa. The pieces are very small and are laid in horizontal rows held together by courses of *bipedales* inserted at regular intervals. The mortar differs little from that of the time of Severus and Caracalla, being a poorer variety of the white and red type.¹ While not so homogeneous as earlier, it is firm and



FIGURE 9. —BRICK FACING OF BIPEDALES OF THE TIME OF DIOCLETIAN.²

tenacious. The *pozzolana-arena* is coarsely sifted but clean. The color is more commonly red, though with a considerable mixture of brown and gray.

The walls are faced almost entirely with bricks made of *bipedales* of the period, similar to those which appear in the arches and bonding courses (Fig 9). Roof-tiles and bricks of other kinds appear occasionally. The width of the facing bricks, as of the *bipedales* from which they are made, is not uniform, varying usually from 3 cm. to 4 cm. The average width of

¹The mortar is not so friable as that of the first century, which is called "dirty-white and red."

²From the *thermae* of Diocletian.

100¹ from the *thermae* and the *curia* is 3.5 cm., and the mean deviation is .4 cm. These facing bricks are usually shorter than those made of *bipedales* of the period of Severus and Caracalla, being usually but 20 cm. to 25 cm. long. In composition and texture also, they are inferior to the earlier type, resembling, at times, the badly puddled triangular bricks of the time of Nero. They are, however, as a rule, very hard and weather well. Their color varies from a deep almost brownish magenta to a magenta yellow. A few narrow bricks of a clear yellow tone appear, similar to those which are found in great numbers in the buildings of Aurelian. The mortar does not differ from that in the body of the structure. The horizontal joints are from 1.5 cm. to 3 cm. wide, in many cases exceeding 3.5 cm. The vertical joints show the same lack of uniformity, varying from .6 cm. to 3 cm.

Bonding courses of *bipedales*, similar to those from which the facing bricks are made, occur at regular intervals in all the walls.

The only monuments of *opus caementicium* of which remains exist are the *curia Julia* and the *thermae* of Diocletian.

Of the few marked characteristics which distinguish the monuments of *opus caementicium* of this period from those of the period of Severus and Caracalla, the most important are the irregularity in the size of the bricks and the increase in the width of the mortar joints. The monuments are easily distinguished from those of the following period by the comparative uniformity in the materials used, especially in the facing bricks.

IX. THE PERIOD OF MIXED FACING BRICKS (MAXENTIUS—)

Maxentius. — In the midst of his struggle for supreme rule, Maxentius found time to plan a number of great monuments,

¹The exact width of the bricks is as follows :

| Measurement in centimetres. | 2.3 | 2.4 | 2.6 | 2.7 | 2.8 | 2.9 | 3 | 3.1 | 3.2 | 3.3 | 3.4 |
|-----------------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|
| Number of bricks. | 1 | 1 | 1 | 2 | 1 | 3 | 12 | 7 | 6 | 8 | 4 |

| Measurement in centimetres. | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4 | 4.1 | 4.3 | 4.4 | 4.5 | |
|-----------------------------|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|--|
| Number of bricks. | 23 | 3 | 2 | 5 | 2 | 12 | 1 | 1 | 1 | 4 | |

the greatest of which, however, the basilica and the temple of Romulus,¹ were left for his conqueror, Constantine, to finish. These two monuments, together with the circus of Maxentius and the temple of Venus and Rome, which was rebuilt by Maxentius, are still, in large part, preserved.

Of the comparative uniformity in materials and methods of construction which distinguish the work of Diocletian, but

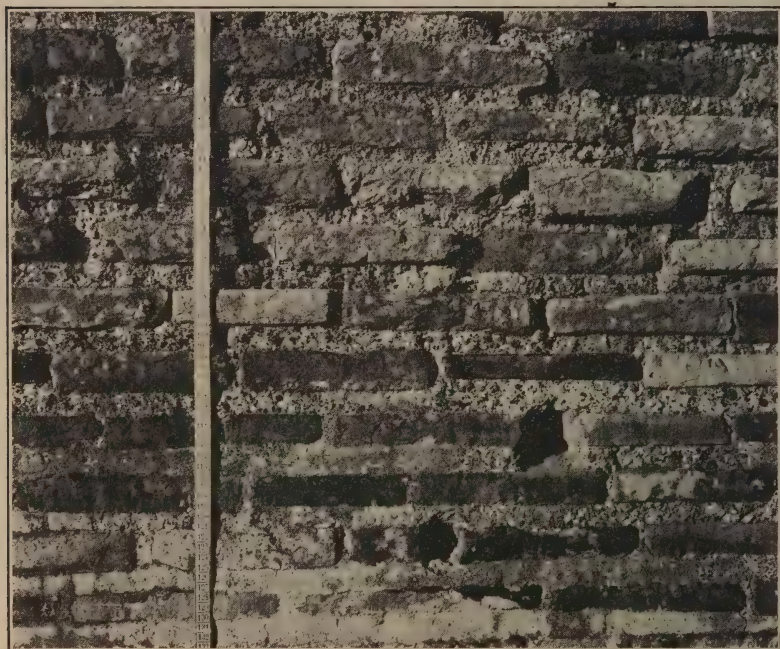


FIGURE 10.—BRICK FACING OF THE TIME OF MAXENTIUS.²

little trace is found in the conglomerate mass of broken materials of every period of which the monuments of Maxentius consist. For the *caementa* of the foundations, stones of every variety are used, with a smaller amount of brick. The pieces are not of uniform size and are laid with no attention to order. In the walls the *caementa* are, more commonly, of bricks of many kinds and of many periods laid in rough rows; in the

¹ It is possible that the temple was completed, though the name of Constantine was later attached to it.

² From the basilica of Constantine.

temple of Venus and Rome, however, very small *caementa* of tufa appear. For the vaults, bricks as well as tufa of several kinds are used. The mortar, by which the heterogeneous mass of materials is welded together, exceeds in amount that of the previous periods. It is irregular and coarse in composition, and less firm and hard than earlier. The color is not uniform, though red predominates. The lime is of medium good quality.

The facing, except in the circus of Maxentius, is composed of bricks of every type and period (Fig. 10). Among those which appear most conspicuously are the roof-tiles of the first and second centuries, the *bipedales* of the Severi and Diocletian, and, though more rarely, the triangular bricks of the first century. The courses of bricks show no regularity, being evened up by the wide layers of mortar. The average width of 100¹ bricks from the temple of Romulus, the basilica, and the temple of Venus and Rome, which are fairly typical, is 3.5 cm. and the mean deviation .6 cm. The length varies from a few centimetres to 35 or 40 cm. The horizontal mortar joints vary commonly from 1.5 cm. to 3.5 cm. and are often, especially below the bonding courses, 4 cm. or more.

Bonding courses, which are composed of *bipedales* of many widths, appear regularly.

In the circus of Maxentius, the facing is in large part of *opus mixtum*, the materials of which are wholly without uniformity.

The monuments or parts of monuments made of *opus caementicium* which may be assigned to this time are the following:

The temple of Venus and Rome: the entire superstructure (*ca.* 308 A.D.).

The temple of Romulus (finished by Constantine?).

The basilica of Constantine (finished by Constantine).

¹ The exact width of the bricks is as follows :

| | | | | | | | | | | | |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Measurement in centimetres. | 2.1 | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 3 | 3.1 | 3.2 | 3.3 | 3.4 |
| Number of bricks. | 1 | 2 | 7 | 2 | 2 | 1 | 17 | 3 | 7 | 4 | 3 |
| Measurement in centimetres. | 3.5 | 3.6 | 3.7 | 3.8 | 4 | 4.1 | 4.2 | 4.3 | 4.5 | 4.7 | 5 |
| Number of bricks. | 10 | 2 | 2 | 3 | 13 | 4 | 6 | 1 | 6 | 1 | 3 |

Constantine. — In monuments of the time of Constantine, so far as it has yet been possible to classify them, the type of construction is identical with that of the monuments of Maxentius.

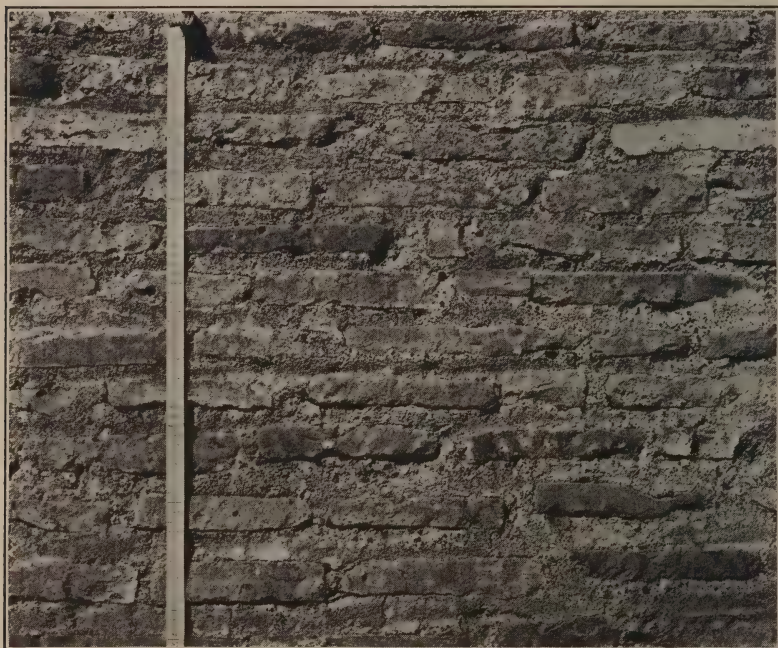


FIGURE 11. — BRICK FACING OF THE SEVENTH CENTURY.¹

No classification of the monuments later than the period of Constantine has as yet been undertaken. The general type of the facing is shown in the illustration above.²

ESTHER BOISE VAN DEMAN.

ROME, June, 1912.

¹ From the column of Phocas.

² Fig. 11.

ARCHAEOLOGICAL NEWS¹

NOTES ON RECENT EXCAVATIONS AND DISCOVERIES; OTHER NEWS

WILLIAM N. BATES, *Editor*
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GENERAL AND MISCELLANEOUS

BULGARIA. — **Two Variants of the Type of Artemis the Huntress.** — In *R. Ét. Gr.* XXV, 1912, pp. 24-41 (2 figs.), G. SEURE discusses two variants of the type of Artemis the Huntress. One of these is a bronze statuette 6 cm. high found near the village of Sveti Kirilovo, Bulgaria, and represents Artemis standing wearing a helmet. The attributes held in the hands are missing. The other is a small fragment of a relief representing Artemis upon a galloping deer found at Panagia near Philippopolis. He shows that Apollo-Hero and Artemis-Bendis were a pair of deities closely associated in the popular imagination and that they were sometimes given the same attributes.

MACEDONIA. — **Recent Explorations.** — Messrs. Wace and Thompson have during the past season explored various sites in the districts of Orestis and Elemiotis, as well as in Perrhaebia, Macedonia. At **Elassona** two prehistoric settlements were found similar to those in Thessaly; in one were vases of Late Minoan II style. Another settlement was found on the Haliakmon near **Serjije**, and not far away an Early Iron Age necropolis. Three Greek settlements were discovered in Orestis; and in northern Perrhaebia a long Latin inscription of Trajan, dating from the year 101, which is of historical and topographical importance. (*Kunstchr.* March 22, 1912, col. 316.)

NECROLOGY. — **Philippe Berger.** — Philippe Berger, formerly professor at the Collège de France, librarian of the Institute, member of the Académie des Inscriptions, senator of Belfort, died suddenly at Paris, March 24, 1912,

¹The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Dr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor FRANK G. MOORE, Professor CHARLES R. MOREY, Dr. JAMES M. PATON, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Dr. N. P. VLACHOS, Professor ARTHUR L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after June 30, 1912.

For an explanation of the abbreviations, see pp. 160-161.

at the age of 64 years. He succeeded Renan as editor of the *Corpus Inscriptionum Semiticarum* and as professor of Hebrew language and literature at the Collège de France. He was the author of an *Histoire de l'écriture dans l'antiquité* (2d ed. 1891) and numerous articles. (S. R., *R. Arch.* XIX, 1912, p. 347.)

Joseph Demargue. — Joseph Demargue, former member of the École d'Athènes, died at Venice, in Provence, January 22, 1912, in his forty-second year. He had carried on explorations, especially in eastern Crete, the results of which were published in *B. C. H.* and elsewhere. (*R. Arch.* XIX, 1912, pp. 149 f.)

William Watson Goodwin. — The death of Professor Goodwin, which took place June 15, 1912, brought to an end a long and useful life and took from our country one of its most distinguished scholars. William Watson Goodwin was born at Concord, Mass., May 9, 1831. In 1851 he was graduated from Harvard College. After two years of further study he went to

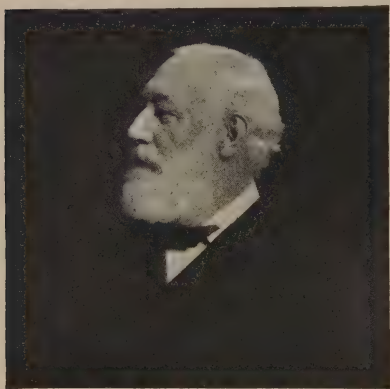


FIGURE 1. — WILLIAM WATSON GOODWIN.

Germany, where he studied at the Universities of Berlin, Bonn, and Göttingen, receiving the degree of Ph.D. at Göttingen in 1855. He was tutor at Harvard College 1856–1860, Eliot Professor of Greek Literature 1860–1901, Professor Emeritus 1901–1912. He received the honorary degree of LL.D. from Amherst (1881), Cambridge, England (1885), Columbia (1887), Edinburgh (1890), Harvard (1901), Chicago (1901), and Yale (1901), that of D.C.L. from Oxford (1890), and that of Ph.D. from Göttingen (1905), fifty years after he obtained his first degree of the same grade there. He was the first Director

of the American School of Classical Studies at Athens (1882–1883), and retained his interest in the School to the end. He was twice (1871–2 and 1884–5) president of the American Philological Association, was an honorary member of the Society for the Promotion of Hellenic Studies, the Philological Society of Cambridge, England, the Archaeological Society and the Academy of Sciences at Athens, and a member of the Imperial German Archaeological Institute. In 1903 he was president of the American Academy of Arts and Sciences. His chief works are the *Syntax of the Moods and Tenses of the Greek Verb* (1860; rewritten and enlarged, 1889), a *Greek Grammar* (first edition 1860), and editions of Demosthenes *On the Crown* and *Against Midias*. His contributions to philological periodicals were numerous and valuable. It is not too much to say that in the *Moods and Tenses* he offered to English-reading students the first clear and complete statement of an important part of Greek syntax, and his *Greek Grammar* was for many years the most valuable grammar of the Greek language available in this country. Throughout his long life he devoted himself to the encouragement and development of the study of

Greek, especially at Harvard College, and his faith in the value of Greek studies is shown by a bequest for the endowment of a Fellowship to be given to students of Greek literature or archaeology. As a man Professor Goodwin was strong, pure, and kind. He was full of sympathy for those who needed it; a faithful friend, and a courteous opponent. His loss is felt by the world of scholars and deeply mourned by many pupils and friends. — H. N. F.

Heinrich Nissen. — At Bonn, February 29, 1912, Professor Heinrich Nissen died at the age of 73 years. He had taught successively at Marburg, Göttingen, Strassburg, and Bonn. His best-known works are: *Das Templum* (1869), *Pompeianische Studien* (1877), and *Italische Landeskunde* (1883, 1902). In Iwan Müller's *Handbuch* he wrote the section on Greek and Roman metrology. (S. R., *R. Arch.* XIX, 1912, p. 349.)

Karl Penka. — Gymnasialprofessor Karl Penka died, aged 65 years, at Vienna, February 10, 1912. In 1887 his work *Die Herkunft der Arier* appeared, and after that time he wrote much on the same subject. He was the first to make use of the data furnished by prehistoric archaeology for the solution of the Aryan question. (S. R., *R. Arch.* XIX, 1912, p. 349.)

Joseph Ladislav Picz. — One of the chief workers in the field of Slavic (especially Bohemian) archaeology, Joseph Ladislav Picz, died at Prague, December 18, 1911. He was professor of history in the University of Prague and author of important works on Bohemian archaeology. (*R. Arch.* XIX, 1912, p. 148.)

Ernest S. Roberts. — The death is announced of Dr. Ernest S. Roberts, master of Caius College, Cambridge. He was the author of an *Introduction to Greek Epigraphy* in two volumes, the second written in collaboration with Professor E. A. Gardner. (*Nation*, July 4, 1912, p. 18.)

Theodor Schreiber. — In March, 1912, Theodor Schreiber died at Leipzig, at the age of 64 years. He was director of the Museum of Art and *ausserordentlicher* professor of archaeology. Among his writings are: A catalogue of the Villa Ludovisi (1880), a treatise on the Grimani reliefs at Vienna (1888), a publication of Hellenistic reliefs (2 vols., 1889 and following), a *Bilderatlas zum Altertum* (1885), and numerous important articles in periodicals and the like. During the last few years he was engaged in excavations at Alexandria, carried on at the expense of Mr. Sieglin. Two elaborate volumes have already appeared (*Expedition Ernst Sieglin, Die Nekropole Kom-esch-Schufäka*, 1908), containing some of the results of this expedition. (S. R., *R. Arch.* XIX, 1912, p. 348.)

W. Wroth. — W. Wroth, the numismatist, of the British Museum, has died at the age of 53. (*Klio*, XI, 1911, p. 511.)

THRACE. — Inscriptions. — In *R. Arch.* XVIII, 1911, pp. 423-449 (fig.), GEORGES SEURE discusses eighteen inscriptions in Thrace. One is in Latin, the others in Greek. All are votive or dedicatory. Three inscriptions from Mesembria furnish some information relative to the strategi, the taxiarchs, and three classes of guards (*ἀμειννοί*, *νυκτερινοί*, and *περίοδοι*). This is the second article in a series (see *A.J.A.* XVI, 1912, p. 113). *Ibid.* XIX, 1912, pp. 319-336, twenty inscriptions are published. Seven contain (or contained) names of emperors (Septimius Severus, his two sons and his wife; Caracalla; Diocletian and Maximianus; Flavius Severus II and Maximinus Daza [reinscribed to Constantine the Great, Constantine II,

Constantius II, and Constans]; Constantine II, Constans, and Constantius II [probably]; two emperors whose names have disappeared). One inscription is in honor of Publius Harpocratio, who is called in another inscription "Publius Aelius Harpocratio, also Proclus." This designated a statue erected by the Alexandrians at Perinthus. Two others are honorary. The rest are *termini*, five of which (of Byzantine times) are republished from the Θρακική Ἐπετηρίς.

MESEMBRIA. — **Recently Discovered Graves.** — In *Ath. Mitt.* XXXVI, 1911, pp. 308-316 (5 figs.), G. KAZAROW describes three graves recently discovered near Mesembria. The most important object found in them was a bronze hydria of the fourth century B.C., with a representation in relief of Boreas and Oreithya below the handle.

EGYPT

THE GERMAN EXCAVATIONS OF 1911. — In *Klio*, XII, 1912, pp. 116-121, L. BORCHARDT describes the excavations carried on by German archaeologists in Egypt in 1911. At **Tell-el-Amarna** eighty houses were excavated, corresponding in plan to those already known from tombs of the Middle Kingdom. Among the objects found was a short bronze sword (not Egyptian, see p. 448), part of the leather harness of a war chariot, an axe blade, etc. Several of the houses were used as tombs in the eighteenth dynasty. At **Gurna** three and perhaps four chapels of the late twentieth or twenty-first dynasty were found, and below them a building of Thutmosis IV. Several tombs were discovered, in one of which were the sarcophagi of a granddaughter and great-grandson of Takelothis I. In *Ber. Kunsts.* XXXIII, 1912, cols. 191-200 (13 figs.), MÖLLER describes these sarcophagi which are now in the museum in Berlin.

ABYDOS. — **Discoveries in 1911.** — During the last campaign at Abydos an undisturbed tomb of unbaked brick, dating from Roman times, was found. In it were twelve sandstone sarcophagi containing mummies, still bright with blue and gold decoration. In another place a woman's skeleton was found in the sand with bracelets of cowry shells and carnelian beads, and on one of the fingers a ring with five scarabs. A silver nose ring, and various ornaments of shells, glass beads, copper and iron rings, etc., lay near by. A twelfth dynasty tomb was not far away. (*Kunstchr.* March 22, 1912, col. 316; *Nation*, February 8, 1912, p. 145.)

EL GERZEH. — **Pre-dynastic Iron Beads.** — In *R. Arch.* XIX, 1912, pp. 255-259 (2 figs.), G. A. WAINWRIGHT describes, with illustrations, a grave at El Gerzeh in which, among other things, were some iron beads. This grave, excavated in the winter of 1911-1912 for the British School of Archaeology in Egypt, is clearly pre-dynastic, as is a second grave (briefly described) which also contained iron beads.

MEROE. — **Recent Discoveries.** — At Meroe, during the past season, Dr. Garstang has made some very interesting discoveries. His work there, carried on with the help of a light railway lent him by the Sudan Government, has led to the excavation and plotting of the greater part of the Ethiopian city, and the laying bare of the royal palace with a very elaborate system of baths. These do not seem to be on the Roman or "Turkish bath" model, and, at any rate, no means of heating has yet been found.

On the contrary, they appear to be more on the plunge-bath principle, and one of them is supplied with a system of inlets from above the water-level of the bath itself, which must have produced a perfect cascade. The walls are ornamented with rows of colored tiles, decorated in relief, all still in their original positions. He also found a very small, but perfect Roman temple, and many stone statues in a new style of art, evidently copied from the Greek, but showing strong African peculiarities. A Venus in the Medici attitude with a tendency to steatopygy is among the more curious examples of this. (*Athen.* March 16, 1912, p. 319; *Nation*, March 7, 1912, p. 245.)

TELL-EL-AMARNA. — **Destruction of a Painted Pavement.** — News has been received of the wanton destruction of a famous painted stucco pavement at Tell-el-Amarna. The pavement was discovered by Flinders Petrie in 1891, while excavating on this site, which was built about 1360 B.C. by King Akhenaten. The pavement was decorated with paintings representing ponds with birds and animals, rendered in a very naturalistic style, and was one of the most valuable monuments of the realistic tendencies in Egyptian art during this period. The deed appears to have been perpetrated by a discharged watchman. (*Nation*, February 22, 1912, p. 196.)

BABYLONIA AND ASSYRIA

BABYLON. — **A General Account of the Excavations.** — Many years have now passed since the German explorers began excavations in the ruins of Babylon, and though nothing very striking in the way of inscriptions has as yet been issued, the results, especially from an architectural point of view, have been satisfactory, and even gratifying. The ground to be explored, however, is so extensive that much time and research will be needed before a really definitive account of the ruins can be made. In *S. Bibl. Arch.* XXXIV, 1912, pp. 83–106, T. G. PINCHES gives an account of the results that have been obtained thus far, mainly an abridgment of the description of Babylon's temples, as published by Dr. Robert Koldewey under the title of 'Die Tempel von Babylon und Borsippa.'

KIŠ. — **The Earliest Sumero-Accadian Dynasties.** — In *C. R. Acad. Insc.* 1911, pp. 606–620 (2 pls.), FATHER SCHEIL publishes a clay tablet probably from Kiš dating from the time of Hammurabi and containing a list of kings of the earliest Sumero-Accadian dynasties. First comes the first dynasty, of Opis, containing the names of six kings, with the years they reigned, 99 in all. Then the second dynasty, of Kiš, with eight kings ruling in all 586 years. The third dynasty, of Uruk, had one king who ruled 25 years. The fourth, of Agade, had twelve kings ruling 197 years; but the names of the first, Šarrukin, and the last seven are alone preserved. The fifth dynasty, of Uruk, had five kings ruling 26 years. The scribe adds that this dynasty was succeeded by that of Guti. *Ibid.* 1912, p. 59, the same writer adds that by removing a bit of the clay which fastened part of a mathematical tablet to the place where the names of the second, third, fourth, and fifth kings of Agade had been broken away, he read the first two signs of the name of the fifth king *Šar-g[a]*, permitting the restoration Šargani šarri. The order of kings in this dynasty was, therefore, Šarrukin, . . . Narâm Sin, Šargani šarri; that is, Narâm Sin may well have been a

descendant of Šarrukin, as the Babylonian scribes said, but not of Šargani šarri who ruled after him.

TEL 'ASHAR. — **A New Date from the Kingdom of Khana.** — In *S. Bibl. Arch.* XXXIV, 1912, p. 52, A. H. SAYCE reports a tablet from Tel 'Ashar which reads, "The twentieth day of the month Nin-biri, the year when Kastiliyas the king organized the administration of justice for the second time." The analogy of the Code of Hammurabi would suggest that by this is meant the promulgation of a code of laws. The population of Khana was West-Semitic or Amorite, as is shown by the proper names. Among these that of Isarlim, or Israel, is perhaps the most noticeable.

TIL-BARSIP. — **A Visit to the Mound.** — In *S. Bibl. Arch.* XXXIV, 1912, pp. 66-74 (3 pls.), R. C. THOMPSON reports a visit to the mound of Tel Ahmar, and publishes the Assyrian inscription engraved upon two lions found in this place. This inscription shows that Tel Ahmar was called Kar Šulmanuašarid, the later name of Til-Barsip, given to it by Shaluaneser III. This identification gives us the starting-point for much of the ancient geography of this region. Til-Barsip is frequently mentioned by Shalmaneser III as the place where he crossed the Euphrates.

SYRIA AND PALESTINE

DAMASCUS. — **Discovery of Remains of the Great Temple of the Graeco-Roman Period.** — In *Pal. Ex. Fund.* XLIV, 1912, pp. 40-45 (3 figs., pl.), J. E. HANAUER reports the discovery of a well-preserved and complete piece of the outer wall of the ancient temple. This fragment is about 50 feet long, and from 27 to 30 feet high. The courses are, on an average, 2 feet 6 inches high, the average length of the stones being 3 feet. Eleven courses, including the topmost, in which are also the pilaster-caps, are now visible, but others will be exposed in a few days when the masonry and *débris* heaped at the foot of the great wall are removed. Just at the corner are three stones placed one upon another, at the foot of a pilaster. These three stones seem to be *in situ*, and on the topmost is an inscription which mentions the temple-stewards Menodorus and Zenonus. It is dated in the year 349. If this is calculated from B.C. 64, "the date of the granting of independence to the Greek cities in Syria" (*Q.S.* 1911, p. 57) this inscription will belong to the time of Diocletian, whose name perhaps stood at the close of line 6. It seems to have been purposely effaced.

HADJI BEY BEKLI KEUI. — **A Hittite Monument.** — In *Ann. Arch. Anthr.* IV, 1912, pp. 126-127 (pl.), J. GARSTANG publishes a royal Hittite monument found by him at Hadji Bey Bekli Keui, near Marash in Northern Syria. It probably came from Choban Tepe. It is a slab of dolerite 1.20 m., by 0.66 m., by 0.34 m. Upon it in relief is a man in Hittite dress holding up a hare in his outstretched left hand, and with his right clutching a triangular-shaped bow which rests upon his shoulder. His royal rank is denoted by a winged rosette above his head. He was standing upon the back of a short-tailed animal. The monument dates from the ninth century.

HEREIBEH. — **A New Minaean Inscription.** — In *Rev. Bibl.* XIX, 1912, pp. 80-85 (2 figs.), A. JAUSSEN and R. SAVIGNAC describe a singular tomb at Hereibeh near El-'Ela, bearing two lions sculptured in high relief,

facing straight forward. A Minaean inscription carved upon this monument states that it was built by Hâni, son of Wahab'il, as an atonement for the sins he had committed.

JERUSALEM. — **The Search for the Temple Treasure.** — In *Mitt. Pal.* V, 1911, pp. 56-61, and *Pal. Ex. Fund.* XLIV, 1912, pp. 35-39, G. DALMAN describes the recent efforts of a party of wealthy Englishmen, on the basis of a supposed cipher, to discover the hidden treasures of David and of the Temple. The work was begun by opening the natural shaft in the rock, originally discovered by Captain Warren, near the Virgin's Fountain, at the foot of the Eastern Hill of Jerusalem, and they explored it thoroughly without finding anything remarkable. The Fountain was carefully examined, and the well-known rock-tunnel, made by King Hezekiah, was cleared out, when it was found that this tunnel was considerably higher than was supposed. A parallel tunnel was found which led back, on the east side, to the Fountain. A tunnel was opened in the direction of the Haram enclosure. The foundations of an old city-wall were met with on the hill, in which there was a gate with a paved street. In the first week of April, 1911, the work south of the Haram enclosure was stopped, and recommenced within the enclosure, where it was carried on, during the night, for nine days, with the attendance of the police. It is said that a guardian at the Gate of the Moors of the Haram enclosure, who had been insufficiently bribed, betrayed the secret, and the work had to be stopped on April 12. The Englishmen went off at once to Jaffa, where their yacht was waiting for them, but the English dragoman was put in prison, and also the Head Sheikh of the Haram, who had received the Prussian Order of the Crown and a ring from the German Emperor and his two sons. The treasure-hunt has failed, but the following unfortunate results remain: The people of Palestine have been confirmed in their belief that archaeological researches are really treasure-hunts. The Moslems have come to the conclusion, which it will be difficult to remove, that one of their holiest places has been pillaged by the Christians. The confidence of the Turkish Government in exploration societies, that they will not secretly do that which is unlawful, has been shaken. The Sacred Rock in the Haram enclosure has been made inaccessible to visitors, and every step of Europeans in the vicinity of it is carefully watched. (See also the articles of C. WARREN on the 'Results of the Excavations on the Hill of Ophel,' *Pal. Ex. Fund.* XLIV, 1912, pp. 68-74; of E. W. G. MASTERMAN on 'Recent Excavations in Jerusalem,' *Bibl. World*, XXXIX, pp. 295-306; and of H. VINCENT, *Rev. Bibl.* XIX, 1912, pp. 86-111; 5 pls.; 4 figs.)

PLAIN OF REPHAIM. — **Palaeolithic Implements.** — Mr. Herbert Clark, of Jerusalem, has forwarded to England a number of photographs of specimens from his great collection of flint implements. The first series was placed by the Committee of the Palestine Exploration Fund in the hands of the Royal Anthropological Institute. The second series is now published by R. A. S. MACALISTER, *Pal. Ex. Fund.* XLIV, 1912, pp. 82-84 (3 pls.). The principal source of supply drawn upon by Mr. Clark is the great palaeolithic "floor" of the Plain of Rephaim, south of Jerusalem, where many hundreds of chipped flints have been collected.

SAKHTJE GEUZI. — **Recent Excavations.** — During his last campaign at Sakhtje Geuzi, Dr. Garstang almost completed his exploration of

the site. In addition to the temple he found several Hittite houses. Furthermore, by a system of sectional cuttings he proved that the strata dated from the eighteenth and twenty-sixth Egyptian dynasties respectively, thus establishing a base for Hittite chronology. He was helped in this by the discovery of Egyptian pottery and seals. Some figures in Phrygian caps were also found which seem to refer to the worship of Mithra. (*Athen.* March 16, 1912, p. 319.)

ASIA MINOR

A NEW MAP OF WESTERN ASIA MINOR. — The first two sheets of a new map of Western Asia Minor were shown to the Berlin Archaeological Society at their February (1911) meeting and highly praised by Fr. Hiller v. Gärtringen. They are the work of Professor Alfred Philippson of Bonn, a pupil of Kiepert and a man unusually qualified by nature and training for such a task. The map is published by J. Perthes of Gotha. These two sheets comprehend the most interesting part of the country, from the Sea of Marmora to the mouth of the Maeander, *i.e.* the Aeolic and the greater part of the Ionic coast, with the islands of Lesbos and Chios. (*Arch. Anz.* 1912, cols. 32–33.)

COS. — **Two Hoards of Coins.** — Two hoards of coins have been found at Cos, the first of twenty-one third-century drachmas, all of the series *B.M.C.*, 76/83; the second, of ten third-century copper coins of the types *B.M.C.*, 103/110. Both are described in detail by J. GRAFTON MILNE (*Num. Chron.* 1912, pp. 14–20), who is inclined on grounds of style to think the date (190–166 B.C.) usually assigned to drachmas represented in the first hoard too late.

LATMOS. — **Hellenistic Fortifications.** — A German architect, F. Krischen, spent three weeks in the fall of 1909 studying the ruins of Heracleia on the island of Latmos, which appear to be of importance for our knowledge of Hellenistic fortifications. His results are published in part as a dissertation for the University of Greifswald and will appear more fully in the large publication of the excavations of Miletus and Didyma. (*Arch. Anz.* 1912, cols. 52–53.)

LYDIA. — **An Epigraphic Journey.** — In *Klio*, XII, 1912, pp. 258–259, A. v. PREMERSTEIN reports briefly upon an epigraphic journey undertaken by him together with J. Keil in Lydia from May to July, 1911. Two hundred and twenty unedited inscriptions were found including three in the old Lydian alphabet.

GREECE

ATHENS. — **Recent Discoveries.** — In *Ἀρχ. Ἐφ.* 1911, pp. 246–256 (33 figs.), K. KOUROUNIOTES reports minor discoveries of antiquities in various places in Athens and vicinity. Of chief interest are graves excavated by the writer at Old Phaleron, in which were found many vases of the geometric, Phaleron, proto-Attic and proto-Corinthian styles. One geometric sherd represents a bireme. A fragment of a beautiful grave stele of the fourth century, confiscated in Piraeus, has a semicircular top upon which are depicted a siren between two mourning women. *Ibid.* pp. 257–261 (8 figs.), A. D. KERAMOPOULLOS reports, among other things, upon the

discovery of a portion of the ancient wall of Athens, south of the eastern end of the Acropolis, which is perhaps part of the Diomean gate, and upon the excavation of a Roman peristyle near the Lysicrates monument. The two Ionic columns that projected above the modern ground-level formed part of the western side of the peristyle, within which was a tank or cistern. Among the finds were two fragmentary inscriptions, a votive relief, and a few fragments of sculpture.

CHALCIS. — *Inscriptions.* — In *Ἀρχ. Ἐφ.* 1911, p. 83, G. A. ΠΑΠΑΒΑΣΙΛΕΙΟΥ publishes eleven short inscriptions from Chalcis.


DELOS. — *Excavations in 1910.* — In *C. R. Acad. Insc.* 1911, pp. 845–877 (8 figs.), M. HOLLEAUX reports upon the excavations at Delos in 1910. East of the lake the ground was swampy and no buildings were erected there before Graeco-Roman times. A road was followed for 80 m. and remains of a number of buildings found, one of which was probably a palaestra. In one of the rooms were many pieces of painted stucco forming a frieze, of which about 1.20 m. was put together, representing winged Nikes engaged in a chariot race. On the west side of the lake was a wall to protect the Terrace of Lions. North of the lake an *abaton* was discovered, the third to be found at Delos. About thirty inscriptions were brought to light during the year, including a sculptor's signature, *Τιμέας Δημέων Ἡρακλεώτης ἐποίησεν*. Another mentions games called *Athenaea*. Many fragments of sculpture were found belonging to the Apollos and to the lions previously known, as well as a number of marbles of Hellenistic date, including figures of Hermes, heads of children, a nude male torso of life size, and several statuettes. A colossal head of terra-cotta (Zeus?) badly broken and a number of vases, some with reliefs, were also found. Coins were discovered in abundance, among them many Attic tetradrachms with magistrates' names of the new style. The wall of Triarius (built in 69 B.C.) was also explored. It was from 2.75 m. to 2.80 m. thick with bastions at unequal distances.

Discoveries in 1911. — In *C. R. Acad. Insc.* 1911, pp. 626–650, T. HOMOLLE reports upon the work of the French archaeological schools in Athens and Rome in 1910–1911. At Delos in 1911, beneath the sanctuary of the foreign gods a temple of Hera was found and a great number of fine vases. Below the temple was a canal to the Isopus. In the gymnasium several important inscriptions were discovered including a list of gymnasiarchs for a period of sixty years after 166 B.C., “*ἀφ' οὗ ὁ δῆμος ὁ Ῥωμαίων ἀνεκτέτατο τὴν νῆσον*.” Another inscription perfectly preserved is a decree authorizing the opening of a temple of Sarapis in the island.

DELPHI. — *Recent Discoveries.* — In *Berl. Phil. W.* February 3, 1912, cols. 156–160, H. POMTOW continues to report his discoveries at Delphi in the fall of 1910 (see *A.J.A.* XVI, pp. 123 ff.). The small building of which remains exist under the “white house” was perhaps the Treasury of Spina, not of Agylla, the existence of which is doubtful. The piece of wall near the Treasury of Corinth probably belonged to the Treasury of Clazomenae as Keramopoulos thought. Many dedicatory inscriptions were recut in the fourth century B.C. The golden chariot of the Rhodians stood on a base of St. Elias stone (gray limestone) about $4\frac{1}{2}$ m. wide and $5\frac{1}{2}$ m. long. Two fragments of the dedicatory inscription still exist. He agrees with Bulle that the temenos of Neoptolemus is to be located in a square north of the

retaining wall of the temple. (*Ibid.* February 10, 1912, cols. 187-190.) Northeast of the Treasury of Acanthus, Attalus I erected a colonnade about 200 B.C. It was about 32.70 m. long and 9.30 m. deep and sufficient fragments remain to permit a reconstruction. (*Ibid.* February 17, 1912, cols. 219-224; 2 figs.) There are also enough fragments of the Theban treasury to permit a reconstruction. (*Ibid.* February 24, 1912, cols. 251-255; 3 figs.) The Apollo Sitalcas, 35 cubits high (Paus. X, 15, 1), stood on the pavement west of the offering of Gelo and Hiero. (*Ibid.* March 2, 1912, cols. 284-288; fig.) He attempts a restoration of the monument of Timareta, consisting of two columns supporting statues of her father and mother, her son and herself. (*Ibid.* March 9, 1912, cols. 315-319; fig.) By the help of two inscriptions (Inv. Nos. 3875 and 1857), he reconstructs the genealogy of the family thus: Timolaus, Aretus, Timolaus, Timareta, Timolaus. (*Ibid.* March 16, 1912, cols. 347-352; 2 figs.) The slabs of the base are still *in situ*. Near by were four high bases supporting two equestrian statues of Eumenes II, one of Prusias II, and one of Aemilius Paulus. The last mentioned is not correctly restored in the museum. It stood on a three-stepped base. The statues of Nicomedes III and Laodice stood near the monument of Prusias, of which he attempts a restoration. (*Ibid.* March 30, 1912, cols. 408-414; 3 figs.) The decrees relating to these and other statues in the vicinity are discussed and the dates of their erection established. (*Ibid.* April 6, 1912, cols. 442-448; fig.) The offering of the Orneatae representing a procession (Paus. X, 18, 5) probably stood on the south side of the temple platform upon the blocks which have parallel rows of footprints. He discusses the base of the statue of Xanthippus. (*Ibid.* April 13, 1912, cols. 475-480; fig.) The latter freed Elatea in 301 and again probably in 285. A large limestone block with a colossal round footmark and the letters ΛΛΩΝΙΦ formed part of the base of the lion of Elatea. A restoration of the monument is attempted. (*Ibid.* April 20, 1912, cols. 506-511; fig.) The monument of the Aetolian generals mentioned by Pausanias (X, 18, 7) was a large one with seven or eight figures. Near it was the bull of Carystus, of which part of the base is preserved. Another large Aetolian monument lay about 50 m. west of the temple. It was of the same date as that of the Aetolian generals, and consisted of statues of the dedicator, whose name is not known, her parents, two or three brothers, and perhaps her son. (*Ibid.* April 27, 1912, cols. 539-544.) Near this monument stood the offering of the people of Hermione, of which part of the base is preserved. (*Ibid.* May 4, 1912, cols. 573-576.) This dates from the middle of the fifth century B.C.; and near it was the offering of Peparethus, with a dedication thus restored by Hiller:

Διοπίθες ἐποίησεν ἈθENAIO[ς].
 Νᾶε δύο Καρόν Πεπαρέθιοι [αἰχμῆι ἡε] λόντες
 ἔστεσα[ν] δεκάτεν ἑκαταβόλοι Ἀπόλλωνι.

The cuttings on the top of the base show that it consisted of a colossal bronze Apollo, about 9 cubits high, with a small doe standing on its hind legs beside him. (*Ibid.* May 11, 1912, cols. 603-608; 2 figs.) The forms of the clamps used by the masons of Delphi do not agree with those in use at Athens at the same time. The swallow-tail clamp was not used after 500 B.C. The Z form, appearing also with the variant , is found all

through the fifth century. The U form began about 400 B.C. and lasted down into the second century. A variation in the shape of a wedge was in use in the third and second centuries. The double T form was used at all periods. (*Ibid.* May 18, 1912, cols. 636-640.) In *R. Ét. Gr.* XXV, 1912, pp. 12-23, E. BOURGUET reports upon his investigations at Delphi in 1911. The remains of a semicircular structure of brick between the Treasury of the Athenians and the polygonal wall belonged to an exedra dedicated by Herodes Atticus. Near the rock of the Sibyl is the base of a monument of the Boeotians to which belong six blocks of stone in the museum. The Treasury of the Corinthians lay east of the Stoa of the Athenians, and was 13 m. by 6.50 m. in size. South of the terrace upon which stood the base of the chariot of the Rhodians was probably the third offering of the Phocians. The wall with hammered inscription which Pomtow believed to be the site of this monument must be assigned to the offering of the Tarentines. He would locate between the base of the Rhodians and the east wall of the temenos the monument of Charixenus. The two foundations east of Gate D perhaps supported statues of Attalus I and Eumenes II.

ELATEA. — A Prehistoric Site. — G. Soteriades, who has for some time been excavating near Elatea, has discovered upon a rising piece of ground an entire prehistoric village. The character of the objects unearthed shows that this site was inhabited from very early times. In the lowest stratum were found finely polished implements of stone together with various articles of bronze, indicating that the period represented was a transition stage from the age of stone to that of bronze. The bronze articles bear a strong resemblance to those of the Early Minoan period in Crete. In the next stratum the deposits belonged exclusively to the Bronze Age. In this period the place had been occupied by stone buildings, and among the remains of these were found numerous fragments of vases, which had been decorated with a coating of black color on which were painted geometrical designs in white. The uppermost stratum contained objects synchronous with the Late Minoan period of Crete. (*Nation*, April 4, 1912, pp. 346-347.)

EPIDAUROS. — Another Side of the Altar of the Twelve Gods. — In 'Αρχ. Έφ. 1911, pp. 174-177 (3 figs.), CH. A. GIAMALIDES publishes a fragment belonging with the fourth century relief, which Kavvadias (*ibid.* 1895, pp. 179-184; Athens Museum, No. 1425), because of the presence of Nike, regarded as the pedestal of a monument recording a victory in the games. The discovery of this second side, upon which are three draped figures, confirms the view of Svoronos, Νέαι έρμηνείαι άρχαίων αναγλύφων (1910), pp. 416-423, that the monument was an altar of the Twelve Gods, bearing figures on all four sides.

ERETRIA. — Inscriptions. — In 'Αρχ. Έφ. 1911, pp. 1-38 (2 pls.; 34 figs.), K. KOUROUNIOTES publishes forty-six inscriptions from Eretria, most of which were found near the temple of Apollo Daphnephoros. Among these are: regulations for the letting of contracts for artists, costumers, etc., for the musical and dramatic contests of the Dionysia and Demetrieia held at Oreus, Chalcis, Eretria, and Carystus; several rolls of citizens of Eretria, one of them containing over nine hundred names; several honorary decrees granting *proxenia*, etc. The foregoing are all dated close to 300 B.C. A decree of the Eretrians on receiving a favorable oracle

from Delphi bears a relief representing Apollo Mousegetes and Artemis on either side of a large omphalos. The remaining inscriptions, some of them archaic, are votive and funereal. One of the tombstones was erected by the Herdsmen's Union.

GONNUS. — **Inscriptions.** — In 'Αρχ. 'Εφ. 1911, pp. 123-128 (fig.), A. S. ARVANITOPOULLOS publishes as Part III (I. 'Αρχ. 'Εφ. 1910, pp. 331-382, 407-8; II. *Revue de Philologie*, 1911, pp. 123 ff., 282 ff.) of his 'Thesalian Inscriptions,' thirteen votive inscriptions from Gonnus (cf. *A.J.A.* XV, p. 422), most of them found near the temple of Athena Polias upon the acropolis. Of chief interest is a dedication to Athena Polias by an ἀρχιφρουρος and ten σύνφρουροι, a body apparently corresponding to the horse patrol, περίπολοι, of Athens. This stele, as well as some of the others, once bore a painting.

GYTHEUM. — **A Grave Statue.** — In 'Αρχ. 'Εφ. 1911, pp. 118-121 (pl.), P. KASTRIOTES publishes a statue of about the first century A.D. found in an ancient cemetery at Pasova near Gytheum. The head is a portrait, but the type of the statue is that of Dionysus. Clusters of grapes wreath the head and a grapevine twines about the tree-trunk support, while a cantharus is held in the right hand and a small panther crouches at the feet. The deceased is thus represented as deified, a custom common in the case of kings and emperors being adopted for an ordinary mortal.

HAGIA TRIADA. — **The Italian Excavations.** — Italian archaeologists have uncovered at Hagia Triada, Crete, a prehistoric town in the middle of which is the Lesser Palace (see *A.J.A.* XVI, p. 121). The oldest portion was in the western part of the area where the buildings had been erected very closely together. Here many domestic utensils were discovered. A small temple was also brought to light having a front supported by three columns similar to those represented upon the panels at Cnossus. (*Nation*, April 11, 1912, p. 374.)

NAXOS. — **A List of Names.** — In *Ath. Mitt.* XXXVI, 1911, pp. 281-284, I. A. NAUPLIOTES and F. HILLER VON GAERTRINGEN give a transcription of a much mutilated list of names each followed by a numeral, found at Naxos, evidently a record of contributions of money.

PATRAS. — **A Mithraic Relief.** — In *R. Hist. Rel.* LXIV, 1911, pp. 179-184 (fig.), C. AVEZOU and C. PICARD publish a relief of Mithra slaying the bull recently found at Patras. It is of imperial Roman date, and is interesting as being the second Mithraic monument found in Greece; the other is a dedication on an altar at the Piraeus. Below the figures is the mutilated inscription [*Soli invic*]to milites | . . .]ust | . . .]esarcus.

THASOS. — **A Shrine of Artemis Polo.** — The discovery of four marble statues in a piece of ground at Osmanieh (Limena) in Thasos, in the early part of 1909, led to an official excavation of the spot and the unearthing of the scanty remains of a shrine to Artemis Polo, which include seven votive statues with portions of their pedestals and six inscriptions. The bases stand against a terrace wall forming the back of what was apparently a hexastyle stoa opening toward the north. The statue of the goddess, which probably stood on the central base, has disappeared, and all the statues but one are headless and otherwise damaged. They are all life size or over life size, draped, female figures of good Hellenistic or Roman work and of familiar types. One, which is missing above the waist, is

welcome as an authentic example of the work of Philiscus the Rhodian, son of Polycharmus (cf. Plin. *N. H.* XXXVI, 34, 35). The epithet of the goddess, Πωλώ, signifying her virginity, recalls the numerous local names of Artemis on the islands of the Aegean and the reference in Callimachus (*Hym. Art.* 34-38) to these shrines. The names Codis (Κόδης) and Are (Ἀρή) of the women represented, and the title Promystes (leader of the mysti?) on a dedication found in a hitherto unknown sanctuary of Augustus, are also new. (T. MACRIDY, *Jb. Arch. I.* XXVII, 1912, pp. 1-19; 12 figs.)

ITALY

BUCCINO.—**A Fragment of a Vase of Assteas.**—In *Ausonia*, V, 1911, pp. 56-68 (pl.; fig.), E. GABRICI publishes a fragment 16 cm. high of a signed crater of Assteas found at Buccino. In the centre with comic exaggeration stands the Palladium, to which a warrior (Ajax?) is clinging in terror. Cassandra, at the left, seizes him by the helmet; while at the right an aged priestess, torch in hand, hurries away. Above is the inscription ΑΣΣΤΕΑΣ ΕΓΡΑΥΕ. Two other pieces of the lower part of the vase are preserved. The writer adds some observations on the date of South Italian vase painting.

CERRETA.—**Prehistoric Remains.**—Prehistoric remains of the aeneolithic period have been found in a tomb at Cerreta near Stroncone in Umbria. They consist of a triangular dagger of bronze, and a sharp-pointed hatchet of the same material, and seven flint arrowheads. (G. COLINI, *B. Pal. It.* XXXVII, 1911, pp. 63-71; pl.)

ESTE.—**A Pre-Roman Tomb.**—The contents of a pre-Roman tomb at Este are described by A. ALFONSI in *B. Pal. It.* XXXVII, 1911, pp. 125-133 (3 figs.). They represent the Gallic civilization shortly before the advent of the Romans, and consist of cinerary and other vases in clay, including a small amphora; also of a *situla* and its cover in bronze, with other objects in bronze and iron.

FERENTO.—**An Inscription with the Name of Otho.**—Among the inscriptions found in the recent excavations at Ferento is a fragment bearing the name of Otho, and thus confirming, apparently, the statement of Tacitus that this emperor was a native of that city. Abundant remains of baths have been uncovered, while the excavation of the theatre has been less fruitful in objects of interest. (L. CANTARELLI, *B. Com. Rom.* XXXIX, 1911, pp. 283-285.)

GNATHIA.—**Frescoes.**—The frescoes of a tomb at Gnathia, in southern Apulia, are discussed in *Röm. Mitt.* XXVII, 1912, pp. 100-123 (pl.; 3 figs.), by R. PAGENSTECHER. They date apparently from the early part of the second century B.C.

NAPLES.—**A Hellenistic Tomb.**—In *Röm. Mitt.* XXVII, 1912, pp. 148-161 (6 figs.), E. GABRICI publishes the results of the excavation of a Hellenistic tomb near S. Maria la Nuova, in Naples, at a depth of 9-11 metres below the street level. The frescoes were very simple.

OSTIA.—**Recent Excavations.**—Excavations at Ostia (see *A.J.A.* XVI, p. 130) have been continued with vigor. An extensive cemetery situated outside the city walls has been partly explored. In the sand beneath the tombs cremation burials of the third century B.C. have been found.

Many of the public buildings of the town have been completely cleared and the intervening spaces explored, so that the most important quarter of the city now forms a connected whole. The baths which were excavated in 1888 have been further examined, and their beautiful mosaic pavements with marine scenes in black on a white ground have been brought to light. Under the palaestra adjoining these baths a large reservoir has been discovered. Moreover, the barracks of the *vigiles* have been completely excavated, as well as the quarter behind the theatre, where remains of a Christian church were found, which was probably erected in honor of Quiriacus, the first bishop of Ostia (268-270 A.D.), but at least three centuries after his death. The foundation of the city of Ostia, which is now under exploration, is to be connected with the Ostian quaestorship in 266 B.C., since no trace of anything earlier has been discovered on the site. (*Nation*, January 25, 1912, p. 94.)

ROME. — Discoveries near Monte Testaccio. — Recent excavations for foundations near the Monte Testaccio have led to the discovery of a strong-box which had been destroyed by fire, so that many of the coins it contained were fused together. Some 770, however, have been identified. They range from Antoninus Pius to the time of Gallienus. The buildings laid bare by these excavations were granaries. Many fragments of jars, and marble and terra-cotta decorations have been found along with some inscriptions. (G. MANCINI, *B. Com. Rom.* XXXIX, 1911, pp. 246-260.)

SAN PIETRO MONTAGNON. — Pre-Roman Remains. — In excavations near a bathing establishment at the hot springs of San Pietro Montagnon, near Padua, strata of votive objects belonging to pre-Roman times have been uncovered. Besides an enormous number of cups and saucers of small size, there are some objects in bronze, — human figures, horses, rings, etc. (G. PELLEGRINI, *B. Pal. It.* XXXVII, 1911, pp. 119-124, pl.; fig.)

SPAIN

JAEN. — Find of Coins and Ornaments. — The province of Jaen in the northern part of Andalusia has yielded at least five important finds of Roman coins that have already been published, and three others not yet published. The first of this last group was made in 1907 not far from Santa Elena, and consisted of about 972 silver and copper coins of the second and third centuries of our era. The second came to light in 1896, at the mine of Centenillo, and was made up of about 181 republican coins. The third, which is now described by G. F. HILL and HORACE W. SANDERS in *Num. Chron.* 1912, pp. 63-69 (2 figs.), was made in June, 1911, about four kilometres to the northwest of the same mine. It consisted of one victoriate and 74 denarii (of 46 different types), extending in date from about 229 B.C. to 90 B.C. With the coins were found a silver armlet and fragments of a torc, of earrings, and of other ornaments, all of silver, and probably representing a medium of exchange current in the country when the hoard was buried.

FRANCE

LES LONGUES RAIES. — Excavations in 1911. — In *B. Soc. Ant. Fr.* 1911, pp. 300-304, O. VAUVILLÉ reports upon the excavations of E. Langelé in the Gallo-Roman cemetery at Les Longues Raies in 1911 (see

A.J.A. XVI, p. 134). About 150 graves were opened, only one of which showed signs of incineration. A large number of vases of different shapes were found, mostly of a lustrous red color or mottled, but a few were white; twelve glass vases; two mirrors, and a large vase of bronze; a large iron knife and iron nails; objects of bone; a perforated lion's tooth used as an amulet; and 69 Roman coins dating from Augustus to Crispina.

NARBONNE.—**A Satyr with a Bunch of Grapes.**—In *B. Soc. Ant. Fr.* 1911, pp. 194–195 (fig.), A. HÉRON DE VILLEFOSSE publishes a Roman intaglio recently found at Narbonne. It represents a young satyr advancing on tiptoe with a bunch of grapes in his extended left hand and a *pedum* or crook in his right. The *nebris* floats out behind. The design was probably taken by the engraver from a group in which the satyr was plaguing some animal.

PARIS.—**Acquisitions of the Louvre in 1911.**—In *B. Soc. Ant. Fr.* 1911, pp. 314–319 (fig.), A. HÉRON DE VILLEFOSSE and E. MICHON report the following acquisitions of the Louvre in 1911. 1. A half-draped, marble statuette of the Nile; 2. a Venus standing on one foot, of the type of Venus fastening her sandal, head, left arm and leg, right forearm and part of right leg missing; 3. female head of good style; 4. upper part of a colossal, beardless head from Tyre; 5. so-called head of Berenice, found at the ancient Hermopolis; 6. grave stele, from Athens, representing a nude athlete (head missing) standing and holding a strigil, and beside him a small slave and two rabbits; 7 and 8. two Phrygian reliefs from Eski-Cheir; 9. a relief of good style representing three girls dancing; 10. a much broken sarcophagus relief with Heracles subduing the Cerynean hind; 11. a small column from Comana inscribed Αὐρηλία Κυρίλλα κυρίῳ Ἀσκληπιῳ εὐχαμένη | ἔθηκα; 12. a Mycenaean lamp, from Camirus; 13. a bronze statuette of Venus standing, from Carthage; 14. bronze bust of a divinity, from Carthage; 15. Roman ring of the time of the Antonines, from Athens, with a bearded head on the seal; 16. an ornate lamp of late date decorated with a beardless head between heads of Silenus and Pan; 17. an alabaster Venus and Eros from Egypt; 18. a right forearm, of bone, entwined with a serpent, and carved with reliefs representing two Chimaeras, a bull, a dog chasing an animal, a tripod, and a goddess holding a flower, from Corinth.

SOS.—**Recent Discoveries.**—In *R. Ét. Anc.* XIV, 1912, pp. 67–71, J. MOMMÉJA gives a brief account of the antiquities recently found at Sos (Lot-et-Garonne). These include a terra-cotta head, coins of the colony of Nîmes, a spear head, and part of a colonnade probably belonging to a villa. *Ibid.* pp. 72–74, he reports on the ancient iron mines in the vicinity (cf. Caesar, *B. G.* III, 21, 3).

TOULOUSE.—**Early Remains.**—In *B. Soc. Ant. Fr.* 1911, pp. 215–219, L. JOULIN gives the results of his excavations and studies in south-western France, especially at Old Toulouse. The pre-Roman remains are of two periods. 1. The Early Iron Age (sixth and fifth centuries B.C.), with pottery corresponding to that of Hallstatt. 2. Later Iron Age (fourth, third, and second centuries B.C.), with remains similar to those of La Tène, and imported objects from Greece and Italy. These remains are in part to be attributed to the Tectosages. The cemeteries with Italo-Greek amphorae date from the period of Roman domination.

VILLENEUVE-SAINT-VISTRE. — **Gallic Vases of Gold.** — In *B. Soc. Ant. Fr.* 1911, pp. 203-208 (2 figs.), A. HÉRON DE VILLEFOSSE publishes two gold vases found at Villeneuve-Saint-Vistre (Marne) in February, 1911. They are without handles, and are ornamented with bands, concentric circles, and triangles beaten out from within. The vases are Gallic work of the Bronze Age. The writer also publishes two gold bracelets, two small gold rings, and several circles of gold wire, perhaps bracelets. All of these objects are in a private collection in Paris.

BELGIUM

RECENT DISCOVERIES. — In *B. Mus. Brux.* X, December, 1911, pp. 90-94, A. DE LOË describes several recent discoveries in Belgium. At **Austruwel**, near Antwerp, a second canoe has been found similar to the one found in 1910 (*A.J.A.* XV, p. 427). At **Coxyde** excavations have uncovered important foundations which seem to have belonged to a church. At **Haulchin** the foundations of a Belgo-Roman villa have been excavated. The tiles are inscribed with the name of the maker **HAMSI**T, already known from other sites. A few coins were found, including a denarius of Gordian III (238-243 A.D.). At **Vireux-Wallerand** abundant evidences of iron-working have come to light, as well as pieces of pottery dating from the end of the Iron Age, and from Roman times. Brief descriptions are also given of antiquities at **Maeseyck** and at **Tirlemont**. *Ibid.* XI, February, 1912, pp. 12-14 (2 figs.), the same author describes a stag-horn comb found at **Oesselghem** and now in the museum at Brussels.

GERMANY

ALZEY. — **Recent Excavations.** — The excavations at the Roman fort in Alzey, Hesse, have shown that it differed from other forts found in Germany inasmuch as it was constructed of stone instead of wood and earth. Coins point to 330 A.D. as the date of its erection; and a layer of ashes seems to prove that it was destroyed by fire. (*Athen.* March 16, 1912, p. 319.)

BAD NAUHEIM. — **Prehistoric Graves.** — In *Röm.-Germ. Kb.* V, 1912, pp. 40 f., F. HELMKE reports the finding at Bad Nauheim of twenty-five graves, mostly of the La Tène period, containing the usual objects.

BERLIN. — **An Egyptian Sword.** — The Berlin museum has recently acquired a straight, bronze sword of northern European shape found in Egypt. It is inscribed with the name of Sethos II. It has also acquired an ornamental axe blade on which are two monkeys back to back grasping a lotus stalk. (*Ber. Kunsts.* XXXIII, 1912, cols. 124-126; 3 figs.)

A Neolithic Amphora. — In excavating for the foundations for the new Deutsches Museum in Berlin, an amphora 16½ cm. high and 19 cm. in diameter was found. It is well preserved and has rude incised decoration. It dates from neolithic times. (C. SCHUCHHARDT, *Ber. Kunsts.* XXXIII, 1912, cols. 126-128; 2 figs.)

An Attic Grave Relief. — In *Ber. Kunsts.* XXXIII, 1911, cols. 57-60 (fig.), B. SCHRÖDER publishes an Attic grave relief of great beauty (Fig. 2) recently acquired by the Berlin museum. It represents three bearded male figures. At the left stands a man in a short-sleeved garment which reaches

to the ground, and in front of him are two warriors wearing the chiton and pileus and carrying round shields, bidding each other farewell. Above are the names Sosias and Cephisodorus. There are traces of a painted pattern

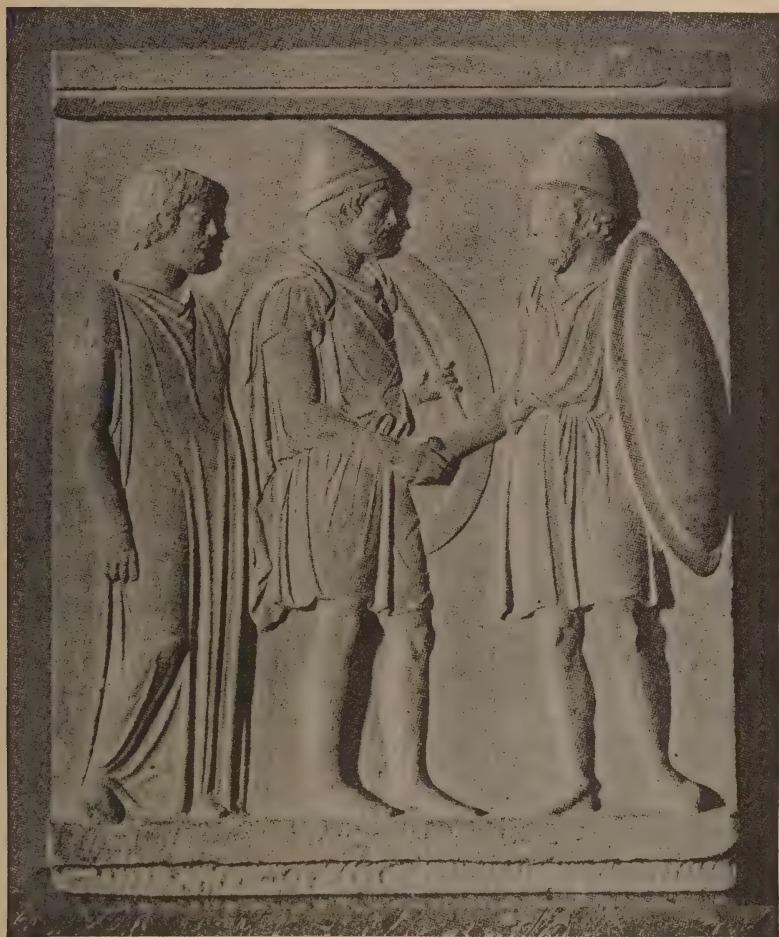


FIGURE 2. — ATTIC GRAVE RELIEF IN BERLIN.

on the moulding. The relief was set into a base. It dates from the end of the fifth century B.C.

BETTELDORF.—**Roman Coins.**—The museum of Trèves has acquired a hoard of coins recently found near Betteldorf. The greater part consists of Trèves coinage of the period of Constantine I and Crispus. (*Röm.-Germ. Kb. V*, 1912, pp. 9 f.)

KEMPTEN.—**Sigilla Bowl.**—In *Röm.-Germ. Kb. V*, 1912, pp. 1 f., P. REINECKE reports the finding, during the excavations in Cambodunum

(near Kempten), of a sigilla bowl with the legend *Cibisus fec(it)*. From the fact that among the decorations are several impressions from a coin of Marcus Aurelius, Reinecke concludes that the date usually assigned to Cibisus (110-125 A.D.) is too early, since the bowl evidently dates from 170 or later. In a rejoinder, *ibid.* pp. 44 ff., R. FORRER states his grounds for believing the bowl in question to be the work of a successor of Cibisus, who used his stamp.

KÖNGEN.—**Jupiter Column and Altar.**—Fragments of a Jupiter column have recently been found near Köngen. A quadrangular block has Victoria, Diana, and Apollo in relief, the fourth side bears an inscription. Other fragments include a torso of a man with flying cloak, evidently Jupiter riding over a fallen giant. Nearby an altar stone with inscription was found, dedicated by the same Aelius Victor who erected the monument to Jupiter. (*Röm.-Germ. Kb.* V, 1912, pp. 8 ff.)

METZ.—**Bronze Utensils.**—In *B. Soc. Ant. Fr.* 1911, pp. 224-225, A. HÉRON DE VILLEFOSSE reports that five bronze vessels of Roman date were recently found in the vicinity of Metz.

OBER-GROMBACH.—**Roman Settlement.**—Remains of a Roman settlement have recently been unearthed near Ober-Grombach,—a *villa rustica* with several outbuildings. Unfortunately very little beyond part of the foundation walls remains. (E. WAGNER, *Röm.-Germ. Kb.* V, 1912, pp. 35 ff.)

OEHRINGEN.—**A Roman Aqueduct.**—Five altar stones have recently been unearthed near Oehringen, on the site of the Roman praetorium. The inscriptions (three of them datable, 187, 231, and 241 A.D., respectively) refer to the building of an aqueduct. A full discussion was promised, to be published in the *Fundberichte aus Schwaben*, XIX, 1911. (A. WOLF, *Röm.-Germ. Kb.* V, 1912, pp. 2 ff.)

POSEN.—**Meeting of the Deutsche Philologen und Schulmänner.**—The fifty-first meeting of the Deutsche Philologen und Schulmänner was held at Posen, Prussian Poland, October 3-6, 1911. Among the papers read in the different sections the following may be noted: A. Frickenhaus, on the Athenian carnival, maintained that the procession ending with Dionysus riding on a boat-wagon, which is found on vases, represents the Greater Dionysia. A. Brueckner described recent excavations of the Greek Archaeological Society in the cemetery of the Ceramicus. In front of the cemetery lay the enclosure of the *Tritopatreis* (see *A.J.A.* XVI, p. 122), or ancestors of the third and earlier generations back, where the rites were celebrated for those whose graves had been covered up by a regrading of the burial ground to make room for a new set of graves on a higher level. This change of level was made about once in a century, and was done without disturbing the old burials. E. Borrmann spoke on the archaeological part of the Jubilee celebration in Rome, as virtually a celebration of the ancient world-supremacy of Rome, and of Augustus in particular as the real founder of the Imperium Romanum. He showed an inscribed base representing the taking of the *auguria salutis populi Romani*, or *auguria augusta*, from which the emperor received his title of Augustus; and suggested that the Sacred Year celebrated by Pope Boniface VIII, in 1300, commemorated not the Jewish Jubilee Year, but the Roman Secular Festival. C. Schuchhardt discussed the development and spread of a pre-

historic Suebian middle-bronze-age culture centring about Lausitz and the southern Mark, and characterized by castle-building and the pottery known as Lausitz ware. Contrary to the recent views, which call this civilization Celtic or Thracian, *i.e.* of southeastern origin, he claimed that it is that of the German Semnones, mentioned by Tacitus (*Ger.* 39) as *vetustissimi nobilissimique Sueborum*, and that it spread to, not from, the southeast, as it did in other directions. He was opposed by Dr. Blume, of Posen. (*Arch. Anz.* 1911, cols. 480-485.)

WOLTERS DORF.—**Prehistoric Discoveries.**—In *Z. Ethn.* XLIII, 1911, pp. 436-501 (30 figs.), H. BUSSE describes axes, hammers, and other implements of stone found at various times and places in the neighborhood of Woltersdorf, and gives a detailed and itemized account of pottery and bronze utensils found in ninety-six graves near the Klein-Schönebecker boundary, not far from his own home. The important types are fully described and illustrated. The finds are attributed to the fourth period of the Bronze Age, 1200-1000 B.C.

AUSTRIA-HUNGARY

MESGES MOUNTAINS.—**The Roman Limes.**—In *Dolgozatok az Erdélyi Nemzeti Múzeum*, III, 1912, pp. 99-127 (12 figs.; map), Á. BUDAY shows as the result of an examination made in the summer of 1911, that there are considerable remains of the Roman *limes* with its protecting towers in the Mesges Mountains, Hungary.

NAGY-SÁNCZ.—**Recent Excavations.**—In *Dolgozatok az Erdélyi Nemzeti Múzeum*, III, 1912, pp. 1-73 (85 figs.), M. ROSKA describes his recent excavations at the *terramare* site of Nagy-Sáncz, Commune of Pécska-Szemlak, Hungary. The objects discovered consist of rude vases and a few implements of bronze which he divides into sixteen groups, according to the level in which they were found. They are now in the museum at Arad, together with other objects from the same site. The earliest of them date back to the beginning of the Bronze Age in Hungary.

GREAT BRITAIN

LONDON.—**Acquisitions of the British Museum in 1910.**—The acquisitions of the British Museum in 1910 in the departments of Egyptian and Assyrian, Greek and Roman, and British and Mediaeval antiquities, are noted in *Arch. Anz.* 1911, cols. 453-464, from the reports of E. A. Wallis Budge, A. H. Smith, and C. H. Read. The following may be mentioned: I. A bronze figure of the god Bast, twenty-sixth dynasty, probably unique; a very fine papyrus roll, the second largest known, written in the hieratic character, and beginning at the right (it is a selection of chapters from the Book of the Dead, prepared by the Theban priests of Aman-Râ for the princess Nesi-Khensu, about 980 B.C.); a stele bearing an early representation of Aman-Râ, god of Thebes, twelfth dynasty; fragments of tablets from Boghazkeui, inscribed in the Khatti language. II. Fourth century Attic gravestone of Aristeis; part of the gravestone of Clearete; small Graeco-Roman bust of Pan; colossal decorative head of Dionysus, from Cyprus; a number of limestone figures and some terra-cottas from Tanassa in Cyprus, all of early Cypriote style; a thick, disk-shaped stone stamp, of

Roman imperial date, with intaglio design and inscriptions on both sides; a very perfect and unusual ivory sistrum from Orvieto, an archaic Etruscan work; a late Roman ivory relief of Ganymede from Behnesa (Oxyrhynchus); a large (1½ in.) agate intaglio of Mycenaean date, showing a lioness and deer; a remarkably fine silver seal-handle of early Greek workmanship, in the form of a crouching lion, from Argos; three bronze mirror-case reliefs, a Dionysus and Ariadne, a combat of three men, and a Victory in a two-horse chariot; a statuette of a deer with much elongated proportions, probably early Graeco-Iberian, from Spain; five fibulae, one being a Spanish development of a La Tène type; two oblong clay tablets from the Minoan Palace at Cnossus, inscribed in Class B, linear script, with inventories and reckonings; in pottery, twenty-two numbers representing thirty-six pieces, of Cretan, Cypriote, Geometric, Boeotian, Attic, Italian, Roman, and Gallic wares, which include the lecythus with the capture of Silenus at the wine spring, several oenochorae with pictures of children, and a toy loutrophoros with marriage scenes. III. Remains of the Stone, Bronze, and Early Iron Ages in Britain, found in various parts of the island, with similar objects from the Swiss lake-dwellings, Belgium, Spain, Siberia, Asia Minor, Palestine, and Southern Africa; Romano-British objects in marble, bronze, terra-cotta, clay, and various metals.

OXFORD.—Acquisitions of the Ashmolean Museum in 1910.—The accessions to the Ashmolean Museum for 1910 are given (in English) from the report of the Keeper, in *Arch. Anz.* 1911, cols. 464–472, under five heads: Egyptian, Prehistoric Mediterranean, Greek, Graeco-Roman and Roman, Romano-British. I. The Egyptian section received rare and valuable objects from the Exploration Fund's work at Abydos, ranging in date from pre-dynastic to Roman times; others from Petrie's excavations at Medum and Memphis, and from the new explorations of Garstang and Sayce at Meroe, in the Anglo-Egyptian Sudan. From Medum came a large slab with a picture in colored plaster inlay, a local technique, and a collection of potters' kilns and accessories of early imperial date, which are of great technological value; from Memphis, a vase in the shape of a locust and some "Ionic" painted ware. The Meroite pottery shows a flourishing barbaric industry, while the finer objects "represent a native art working on debased Egyptian models under some slight Hellenistic influence." II. From Cnossus, Dr. Evans gave fifteen clay labels and tablets, inscribed in the hieroglyphic and linear scripts, and a number of seal-stones with different stages of pictographic writing, the whole forming a nearly complete series of Cretan scripts. Other acquisitions are: a fine set of bronze tools from Cnossus, a gold ring bezel from the Aegean, showing two typical Achaean warriors in combat; a very primitive seated-goddess figurine from western Asia Minor, and various specimens of pottery and sherds, terra-cottas, etc., including a collection of clay vessels of Jewish fabrique, from Lachish. III. The Greek section possesses two inscriptions in Cypriot script, which have lately been recognized as containing a new language with Sanscrit affinities, possibly an early Aegean tongue; also a number of clay figurines and heads; two marble votive figures of uncertain date, possibly charms against the Evil Eye; a painted Corinthian shell rhyton; a rare *κουροτρόφος* figurine in ivory; and an early Ionian stamped plaque of electrum with bull design. IV. A collection of vases and fragments of Cam-

panian black-slip ware from southern Italy, an important collection of glass, terra-cottas, bronze and gold objects, etc., from Kertch, southern Russia, and some clay lamps from Carthage, may be mentioned. V. Two new pieces of inscribed Samian ware from the series found at Herne Bay, Kent, sherds from Holton, Oxon., and a cinerary urn from Woodstock are noted.

AFRICA

BULLA REGIA. — **Recent Excavations.** — In *C. R. Acad. Insc.* 1911, pp. 595-603, Dr. CARTON reports upon the excavations of Bulla Regia since October, 1910. The clearing of the great hall in the public baths was continued, and it was found to be remarkable both for the state of preservation of its walls and for the manner in which it had been fitted out. It was 15.50 m. by 11 m. with a fine mosaic on the floor. Further excavations in the house discovered in 1910 indicate that it had an *atrium* into which opened a *tablinum* with two *alae*. It had an elaborate mosaic representing a triumphal procession with Amphitrite riding upon a Triton and a Nereid and escorted by winged figures, dolphins, and other fishes. Later on another mosaic was found representing Perseus rescuing Andromeda.

CARTHAGE. — **An Inscribed Gem.** — In *B. Soc. Ant. Fr.* 1911, pp. 249-250, P. MONCEAUX publishes a partly broken agate cameo recently found at Carthage. It is inscribed λέγο[υσιν] | ἂ θέλο[υσιν], | λεγέτωσ[αν]. | οὐ μέλ(ε)ι μο[ι]. | σύ, φίλ(ε)ι με, | συνφέρ(ε)ι σοι.

UNITED STATES

NEW YORK. — **Acquisitions of the Metropolitan Museum.** — The Metropolitan Museum has recently received as a gift from J. P. Morgan an Assyrian sword (Fig. 3), the only specimen of the primitive bronze

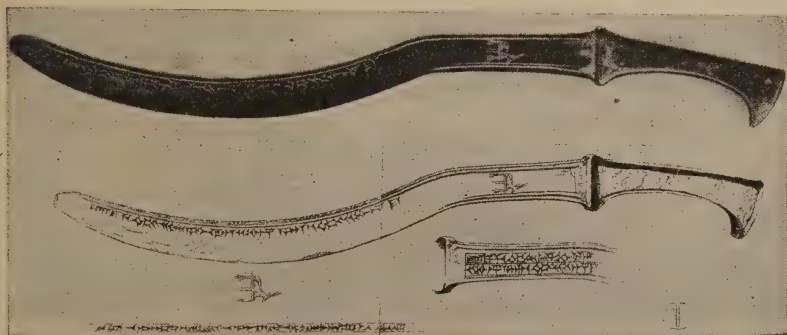


FIGURE 3. — ASSYRIAN SWORD IN NEW YORK.

Sa-pa-ra known to exist. It was at one time exhibited in the British Museum. It is 20 in. long and resembles the Malayan bolo. It has upon it in cuneiform characters the inscription thrice repeated: "The Palace of Vul-niari, King of Nations, son of Budil, King of Assyria, son of Belnirai, King of Assyria." (B. D., *B. Metr. Mus.* VII, 1912, pp. 3-4; 3 figs.) It



FIGURE 4. — HEAD OF AN ATHLETE IN NEW YORK.



FIGURE 5. — EARLY ATTIC VASE IN NEW YORK.

has also acquired a fine head of an athlete of fifth century date (Fig. 4). This is a copy of the same original as the Petworth head, which Furtwängler (*Meisterwerke*, pl. XVI) assigned to Cresilas. It is a recent discovery. (E. R., *ibid.* pp. 47-49; 3 figs.) Another acquisition is a proto-Attic amphora, 1.085 m. high, adorned with three scenes (Fig. 5). On the neck is a lion attacking a deer; on the shoulder two grazing animals, perhaps horses; and on the body of the vase Heracles attacking Nessus. Behind Heracles is Deianeira seated in a chariot. (G. M. A. R., *ibid.* pp. 68-71; 2 figs.) Among other objects recently received are: the head of a boy in black basalt, height 31.8 cm., of early imperial date; the head of a Muse of fourth century type; a fragmentary head of a girl from Athens, of Roman date; an Apulian amphora with scroll handles, 1.085 m. high (published in *Mon. dell' Inst.* VI, 1860, pl. XLII B); portion of a cylix in which the figure has been outlined, but the background not filled in; a prochous of geometric date; a red-figured hydria; a white lecythus; a terra-cotta mould for the lower part of a small male figure; a terra-cotta head of the archaic period slightly under life-size; a life-size head of a youth of terra-cotta; also a fragmentary figure of an old woman; ten ancient gems, of which two are Mycenaean; also the contents of three tombs at Tarentum, of third century date. (G. M. A. R., *ibid.* pp. 93-98; 6 figs.) The Museum has also received reproductions of some of the frescoes from Tiryns. (G. M. A. R., *ibid.* pp. 116-117; fig.). A. T. CLAY, *ibid.* pp. 72-73, describes three reliefs from the palace of Ashurnasirpal at Nimrud recently lent the Museum by J. P. Morgan. On two of the slabs are winged figures before a sacred tree; on the third the king's armor bearer. They belong to the same series as the reliefs in the British Museum.

EARLY CHRISTIAN, BYZANTINE, MEDIAEVAL, AND RENAISSANCE ART

ITALY

PICTURES BY MICHELANGELO DA CARAVAGGIO. — In *Boll. Arte*, VI, 1912, pp. 1-8, L. VENTURI adds to the *oeuvre* of Caravaggio four pictures: the portrait of Maffeo Barberini in the collection of Princess Anna Corsini, attributed on internal evidence; the Archangel and Tobias, in the church of S. Rufo at Rieti, given to the artist for stylistic reasons; the SS. Quattro Coronati in the church of S. Andrea in Vincis at Rome, on which the writer has discovered the painter's signature; and a Supper at Emmaus in the collection of the Marchese Patrizio Patrizi in Rome, a picture recorded as painted for that family by Bellori.

MILAN. — **A Portrait of Charles V.** — F. MALAGUZZI-VALERI publishes for the first time in *Gaz. B.-A.* VII, 1912, pp. 237-243, an interesting portrait of the Emperor Charles V, now in a private collection at Milan (Fig. 6). The picture represents the monarch in full imperial regalia, and is so minute in detail that the writer thinks that it must have been done at Bologna at the time of the emperor's coronation. He does not attempt to identify the painter.

RIETI. — **A Picture by Simone Dei Crocefissi.** — In the Villa Potenziani at Rieti is a 'Madonna of Pity' signed SYMON PINXIT HOC



FIGURE 6. — PORTRAIT OF CHARLES V IN MILAN.

OPVS which is one of the few existing paintings of the Bolognese Simone dei Crocefissi. It is published in *Rass. d' Arte*, XII, 1912, p. 47, by U. GNOLI.

A New Giambellini.—U. GNOLI publishes in *Rass. d' Arte*, XI, 1911, p. 177, a Madonna in the Villa Potenziani in Rieti, which he assigns to Giovanni Bellini by reason of close correspondence with authenticated works, like the Correr Pietà and Gethsemane in the National Gallery.

ROME.—Acquisitions of the Borghese Gallery.—There have recently been added to the Borghese Gallery a St. Jerome, and a St. Mary of Egypt by Ribera; two views of ruins in Rome by Canaletto; a Madonna by Pompeo Batoni; a Portrait of Himself by G. L. Bernini; a marine landscape by Ruysdael; and an Archangel and Tobias by Savoldo. (P. ACHIARDI, *Boll. Arte*, VI, 1912, pp. 81-93.)

SOMMA LOMBARDO.—A Picture by Bevilacqua.—In *Rass. d'Arte*, XII, 1912, pp. 44-46, A. BELLINI publishes a little-known altar-piece in the church of S. Vito at Somma Lombardo. It represents SS. Modesto, Crescenza, and their son S. Vito adoring the Madonna. The altarpiece, the work of Bevilacqua, pupil of Bergognone, was ordered for the church by Battista Visconti, and must have been painted *ca.* 1500.

SPAIN

SEVILLE.—A Painting by Juan de Ruelas.—A "Miracle of St. Francis Xavier," now in the University church at Seville, is published in *Mh. f. Kunstw.* V, 1912, p. 84, by F. MURILLO Y HERRERA. The picture belongs to the artist's later period.

FRANCE

PARIS.—Acquisitions of the Louvre.—The most important recent acquisition of the Louvre is the Redeemer by Giovanni Bellini (MARY L. BERENSON, *Gaz. B.-A.* VII, 1912, pp. 371-376; R. FRY, *Burl. Mag.* XXI, 1912, pp. 10-15). The department of mediaeval sculpture has added a number of important pièces, among them: a fragment from the workshops of Notre-Dame at Paris (XIII century); a St. Michael slaying the dragon, of the twelfth century, from the region of Nevers (stone); an angel in stone relief, of the twelfth century and from one of the southern French schools; a wooden statuette of the Virgin, a Picardy work of *ca.* 1300; a stone Virgin and Child, Burgundian of the fifteenth century; a Virgin of Pity in stone, of the fifteenth century; a fragment of stone relief, The Entry into Jerusalem, of the fourteenth century; and the tomb-statues of Charles IV and Jeanne d'Evreux, by Hennequin de Liège. (A. MICHEL, *Gaz. B.-A.* VII, 1912, pp. 257-270.)

A Painting by Pietro Alemanno.—The Musée des Arts décoratifs at Paris contains a Madonna signed by Pietro Alemanno, which is described by U. GNOLI in *Rass. d' Arte*, XI, 1911, pp. 206-207. Other paintings by this pupil of Crivelli are noted in the same article as existing in Montefortino in the Marche.

GERMANY

HERRENBREITUNGEN.—The Excavations.—An account of the recent excavations in the twelfth century monastic church at Herrenbrei-



FIGURE 7.—YOUTHFUL WORKS BY MARTIN SCHONGAUER.

tungen is given in *Mh. f. Kunstw.* V, 1912, pp. 177-184, by P. WEBER. Beside many fragments of the Romanesque building, there were found also remains dating in all probability from the Ottonian or even the Carolingian period.

MÜNSTER. — A Forgery? — G. PAULI discloses in *Rass. d' Arte*, XII, 1912, p. 19, the interesting fact that the Madonna signed IO. A. BOLTRAFFIVS FECIT 1505, in the Landesmuseum at Münster, is an exact replica of a cut by Dürer dated 1513. This in itself would not militate against the authenticity of the picture, but it has none of the characteristics of Boltraffio, and the group of a mounted king with two attendants in the background is clearly copied from a cut by Lucas of Leyden.

STAUFEN. — Youthful Works by Martin Schongauer. — In *Mh. f. Kunstw.* V, 1912, pp. 52-60, F. W. GAERTNER publishes two panels which formed the front and back of a wing formerly part of an altarpiece in an Augustinian monastery in Staufen (Fig. 7). The Christ on the Mount of Olives is so like the engraving of that subject by Schongauer that a common authorship must be supposed for both. A careful analysis of the evidence afforded by the arms represented in the panel of St. Sebastian and St. Arbogast shows that the altarpiece must have been painted for a certain Conrad Haesing of Neuenburg, in the fifties of the fifteenth century. This makes the date of Schongauer's birth about 1435 instead of 1450 as hitherto supposed. The Mount of Olives is still in Staufen, but the panel of the two saints is now in the possession of a collector in Karlsruhe.

AUSTRIA-HUNGARY

VIENNA. — A New Lorenzo Lotto. — G. FRIZZONI contributes to the *Jb. Kunst. Samm.* 1911, pp. 49-57, a discussion of a picture in the Imperial Gallery representing the Christ borne by Cherubim, some of whom support the Cross, and another the eucharistic chalice — the whole denoting an allegory of dogmatic character. The painting's recent restoration has brought out characteristics of Lorenzo Lotto in the picture, and it seems to be the one mentioned in Lotto's account-book, and dated thereby in the year 1543. It also seems to have inspired the relief by Jacopo Sansovino on the door of a ciborium in San Marco at Venice.

Two Decorative Panels by Mantegna. — There are two paintings evidently intended for the decoration of a chamber, representing the Sacrifice of Isaac and David with the head of Goliath in the Imperial Gallery at Vienna, which are unmistakably from the hand of Mantegna. They belong to the last ten years of the master's activity. They are discussed by P. KRISTELLER, *Jb. Kunst. Samm.* 1911, pp. 29-48.

GREAT BRITAIN

EDINBURGH. — A New Landscape Artist. — In *Burl. Mag.* XXI, 1912, pp. 30-35, C. DODGSON reproduces a drawing of a view of the island of Ponza off the coast of Italy signed by an artist, hitherto unknown, by the name of Staynemer. The drawing shows some inaccuracies from the topographical point of view, and it is evident that it formed a study for a Vision of St. John. The name of the artist sounds German,

but his artistic affinities are rather with Bruegel or De Gheyn. The drawing is in the National Gallery of Scotland.

LONDON.—**A New Work by Pol De Limbourg.**—F. WINKLER contributes to *Rep. f. K.* 1912, pp. 536–543, a description of the Breviary of John the Fearless of Burgundy, now in the British Museum. All the miniatures of this manuscript, with a few exceptions, are ascribed by the writer to Pol de Limbourg or his atelier, chiefly on the basis of their resemblance to the Heures of Chantilly.

Two New Dürer Drawings.—H. DAVID publishes in *Jb. Preuss. Kunsts.* XXXIII, 1912, pp. 23–30, two hitherto unnoticed drawings in the British Museum. The one represents an elk and is evidently the study for the animal emerging from the forest in Dürer's well-known cut of Adam and Eve. On the back of the leaf on which this animal is drawn, is the sketch of another, a bison. Both drawings are attributed, therefore, to Dürer by the writer.

Leonardo's Drawings for the Bénois Madonna.—The Madonna in the collection of Madame Bénois in St. Petersburg was reproduced in *Burl. Mag.* December, 1911, and has been recognized generally as a youthful work of Leonardo's. In the same periodical, XX, 1912, pp. 230–233, Sir SIDNEY COLVIN comments upon a series of drawings in the British Museum, one of which is practically identical with the St. Petersburg composition except that the Madonna is represented in full length, and the others seem to be preliminary studies for the same picture. On one of these is found a profile of an old man's head which occurs again on the Uffizi drawing dated 1478 and bearing the remark concerning the commencing of the "two Madonnas." The writer is inclined to the view that the Bénois Madonna is one of the two pictures meant.

UNITED STATES

BROOKLYN.—**A Painting by Crivelli.**—F. MASON PERKINS publishes in *Rass. d' Arte*, XI, 1911, p. 207, a panel representing the apostle St. James formerly belonging to Sir C. A. Turner in London, which is now in the collection of Mr. F. L. Fabbott of Brooklyn. The picture is an obvious Crivelli, though almost unknown to students. Other Italian paintings in the same collection are listed in the article.

NEW YORK.—**Byzantine Enamels in J. P. Morgan's Collection.**—In *Burl. Mag.* XXI, 1912, pp. 3–10, 65–73, 127–128, O. M. DALTON describes the collection of Byzantine enamels recently purchased by Mr. J. P. Morgan, formerly known as the Swenigorodskoi collection. The objects described include: an ornamental halo from an ikon of the Virgin; plaques with figures of St. Nicholas and St. Peter, and with ornamental designs; figures of the Virgin and St. John from a Crucifixion; a number of gold earrings and necklaces; the Oppenheim reliquary; a series of gold medallions with figures of saints; and fragments of decoration. The earrings and necklaces are classed by the writer, with some hesitation, as Russo-Byzantine, and dated in the eleventh or twelfth century. The reliquary he considers to be ante-iconoclastic, while most of the other pieces are assigned to the best period of the Byzantine Renaissance.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

ILLINOIS.—Burial Mounds at Albany, Whiteside Co.—In *Rec. Past*, XI, 1912, pp. 69–81 (7 figs.), WM. BAKER NICKERSON gives an account of the investigation of eight of the group of eighty or ninety mounds situated near Albany, Whiteside Co., Illinois. They appear to have been “the final repository of bodies previously given temporary interment elsewhere, or temporarily exposed on scaffolds, as was customary within the historic period.” The author also believes that similarity in mode of interment justifies the inference that “all were the work of one people, covering a period of several years duration, while similarity in mound structure and disposition of bodies at Portage and East Dubuque indicates a distribution of the same people northward to the Wisconsin line, if not beyond.” A notable feature of these mounds is the general absence of material objects with the dead, — a “monitor pipe,” however, found in one grave, fixes the period of their erection as coeval with that of the Ohio culture. In and beneath Mound 9 there were probably 120 skeletons.

MASSACHUSETTS.—Early Earthworks.—In *Am. Anthr.* N.S. XIII, 1911, pp. 566–576 (7 figs.), C. C. WILLOUGHBY describes and figures certain earthworks in eastern Massachusetts: portion of a circular embankment and trench at Marblehead; remains of a square enclosure near Haggett's Pond, Andover; embankments and trenches enclosing upland, western shore of South End Pond, Millis, etc. On pages 572–576 citations from early explorers and writers about New England Indian forts, palisades, etc., are given. According to the writer “in all there are about twenty Indian forts mentioned by the early explorers and colonists of New England between the years 1605 and 1676, nearly all of which were in Massachusetts (including the province of Maine) and Connecticut.” These earthworks are all to be attributed to the Algonkian Indians of the country; but “there are indications of the occupancy of eastern and, perhaps, central New England, by a non-pottery-making people, possibly the Beothuk.” He finds, however, no evidence that the Beothuk constructed fortified enclosures of the types known to have been common among the Algonkians; although they did build extensive deer-fences with “half-moon breast works” at intervals.

ONTARIO.—Archaeological Report, 1911.—The *Annual Archaeological Report*, 1911, including 1908–10 (Toronto, 1911, 103 pp.; 150 figs.), issued by Dr. R. B. ORR, the successor of the late Dr. David Boyle as Superintendent of the Provincial Museum, takes up again the record of the archaeological investigations carried on under the auspices of the Museum where they were suspended in 1908. It contains a portrait of Dr. Boyle, with a brief sketch of his life and scientific activities, and treats of field work on the Dorchester Farm, near Queenston Heights, where a unique copper chisel was found, the Murray collection (1800 specimens, mostly from the territory of the Attiwandarons or Neutrals), bird amulets, ceremonial weapons, stone pipes, stone axes, gouge forms; the Smelser-Orr collection (pipes especially); wood and bone (fine specimens of awls, etc.), shell relics (strings of wampum, beads, pendants, etc.). The frontispiece

is a reproduction in colors of the Fort Garry (1869) wampum belt. The list of accessions to the Museum (pp. 93-103) shows for the interval 1908-1911 a gain of 2803 specimens. The countries outside Canada represented by these specimens are the United States, India (Stewart collection illustrating manners and customs of natives of Bengal), West Indies and Guiana, and Chili (Bullock collection of implements, manufactures, etc.).

YUCATAN.—**Ruins of Tuloom.**—In *Am. Anthr.* N.S. XIII, 1911, pp. 539-550 (7 figs.), G. P. HOWE describes a recent visit to the ruined city of Tuloom (Province of Quintana Roo), a site probably not examined by archaeologists since 1840. He gives a general plan, ground-plan of the Castillo, etc. It lies in an area that has had a long period of occupation and was probably the centre of a distinct archaeological province consisting of the coastal area south of Cape Catoche, extending to the Rio Hondo on the borders of British Honduras, including the islands along the coast and reaching some distance inland. Other cities in this area are El Mecco, Tamul, Ina, North Tuloom, Boca Pilar, Bacalar,—besides the ruins on the islands of Cozumel and Mugeris, etc. There are also rumors of large ruins in the interior. At Tuloom there are no high pyramids, and no typically residential buildings, except, perhaps, the "guardhouse." The decoration is comparatively slight; wall-paintings were common, but except in one building are largely obliterated. Threatened Indian attacks prevented more thoroughgoing explorations. The author thinks Tuloom was a city of very early date.

BOLIVIA.—**Ruins at Tiahuanaco.**—In *Proc. Amer. Antiq. Soc.* N.S. XXI, 1911, pp. 218-265, A. F. BANDELIER gives the results of his nineteen days stay at Tiahuanaco, where he visited both the ruins themselves and the local museum. The activities of the expedition consisted in surveys of the site, observations on the nature of the country and on native customs, collection of fragments of folk-tales and data from ancient church books, etc. A few specimens were also obtained. The situation, character, condition, etc., of the ruins are described, the questions of construction, transportation, etc., discussed, Indian traditions concerning the ruins mentioned, and some information given about the present Aymará Indians, their sociological organization, dances, etc., with their curious mingling of paganism and Christianity. Dr. Bandelier is of the opinion that Tiahuanaco was built and settled at a very remote period, clear recollection of its builders who may have been Aymará having been lost. The first settlement stood in some relation to the Island of Titicaca. It seems, too, that the original traditions concerning Tiahuanaco are Aymará, not Quechua, folk-lore. In the cutting and construction of these buildings, monoliths, statues, etc., stone tools and implements as well as those of copper (and bronze) were employed. The exactness and perfection of the cutting and joining of the huge stones have, according to Dr. Bandelier, been much exaggerated, the rule of thumb being really most in evidence. A goodly number of the carved blocks are of the Permian sandstone cropping out at Tiahuanaco, and were evidently quarried and prepared on the spot; while the troublesome question of long transportation (wooden rollers and levers seem to have been in use) is considerably reduced by the suggestion of Mr. Sundt, the geologist, that the andesite blocks may be erratic. The nature of the copper clamps used for fastening together some of the stones indicates that the builders were

acquainted with the art of casting. In the absence of definite facts, speculation as to the interpretation of the symbolic art of the carvings, especially the great doorway, is esteemed idle, but the writer observes that "the art of the monoliths of Chavin de Huantar in central eastern Peru seems like an intermediate between the art of Tiahuanaco and that of Copan and Palenque." In *Bol. Soc. Geográf. de la Paz*, IX, 1911, pp. 4-52, A. POSNANSKY treats of Tiahuanaco and the ancient civilization of this region. The author takes the position that all the great pre-Columbian civilizations of Peru, Ecuador, Colombia, Central America, Yucatan and Mexico, "have had their origin on the Andean plateau, where the most primitive beginnings of the American troglodyte are to be seen." He recognizes five stages of Colombian-Andean culture, the last being the period of the Incas. A second edition of this paper has been published in pamphlet form.

WEST INDIES. — Lucayan Remains on Caicos Island. — In *Am. Anthr.* N.S. XIV, 1912, pp. 81-105 (pl.; 16 figs.), THEODOOR DE BOOY, after some preliminary account of the ancient inhabitants of the Bahamas, gives the results of his recent explorations of caves, mounds, camping grounds, etc., on the island of Providenciales (burned wood, conch-shells, fragments of incised pottery, stone and bone implements, pottery-heads, etc.); the Ambergris Cays, North Caicos Island (besides pottery and a flint hatchet-head, there was found in a cave at Sandy Point a highly polished black flint chisel with cutting edge; fragment of bowl from a cave at Pumpkin Bluff; jadeite implement from field at Whitby; pottery, hammer head, etc., from Bottle Creek; stone idol from Kew); Grand Caicos Island (mounds; pottery, stone implements, etc.); and East Caicos Island (caves at Jacksonville, with petroglyphs, carved stones, pottery fragments, stone implements, etc.). Evidences of pre-Columbian habitation have been discovered on a majority of these islands.

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1912

Number 4

OCTOBER — DECEMBER



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ARCHAEOLOGICAL DISCUSSIONS (January-June, 1912)

NORWOOD, MASS.

PUBLISHED FOR THE INSTITUTE BY

The Norwood Press

NEW YORK: THE MACMILLAN COMPANY

64-66, FIFTH AVENUE

LONDON: MACMILLAN & CO., LTD.

Annual Subscription, \$5.00

Single Numbers, \$1.50

PUBLISHED QUARTERLY

Norwood Press :

J. S. Cushing Co. -- Berwick & Smith Co.
Norwood, Mass., U.S.A.

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THIRD PRELIMINARY REPORT ON THE AMERICAN EXCAVATIONS AT SARDES IN ASIA MINOR

THE most important piece of work accomplished in the third year's campaign at Sardes (February 1st to June 24th, 1912) was the complete excavation of the Great Temple of Artemis. The chief discovery, from a scientific point of view, was that of a bilingual inscription in Lydian and Aramaic, which makes the first considerable advance toward the deciphering of the unknown Lydian language, in addition to the discovery of a large collection of Lydian texts of good length and in an excellent state of preservation.

The completion of the work upon the temple was attended with many difficulties, the latter part of the excavation being carried on at a depth of fifty feet, and the removal of great masses of fallen column drums which lay upon, or near, the surface affording much delay and constant danger. But the conjecture, formed in earlier campaigns, that the building would be found to be preserved in proportion as it was deeply buried, proved to be well founded; for its entire eastern end, now completely freed from the accumulations of soil and débris, presents a most imposing ruin, gigantic in scale and very beautiful in details. It may be interesting to compare a photograph of the ruins taken in April, 1910 (Fig. 1), with one taken in June, 1912 (Fig. 2).

From the top of the fifty-foot bank which now forms the northeastern boundary of the excavations, the entire ground plan and much of the superstructure of the temple are plainly visible; the west end, in foundations of white marble, the middle section, in walls that are from 50 centimetres to 2 metres

high above the platform, and the east end, in walls and stumps of columns that rise from 3 to 10 metres above their bases in addition to the two complete columns which have a height of nearly 20 metres. The building covers a rectangle a little more than 100 metres long and a little less than 50 metres wide. Its plan is unique, being octastyle, pseudodipteral, with 20 columns on the sides; for there were two columns between the ends of antae and the outer row, on either side, *i.e.* in line with the third and sixth columns of the outer row, and two

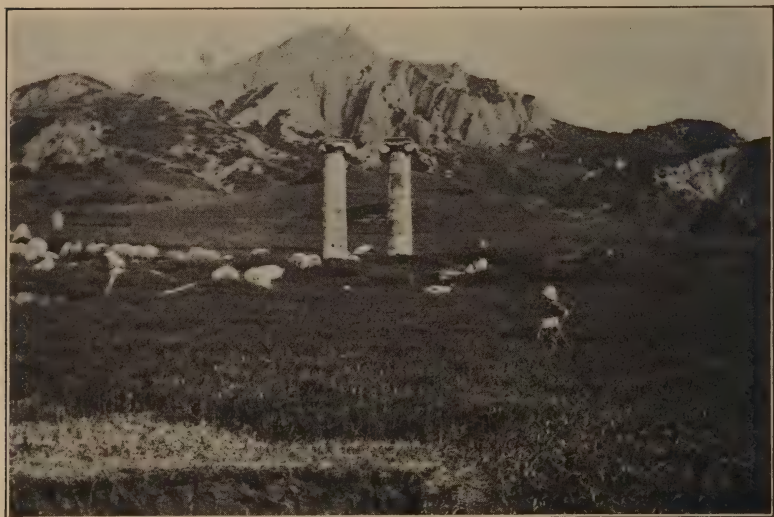


FIGURE 1. — THE TWO COLUMNS OF THE TEMPLE OF ARTEMIS, April, 1910
(from the West).

raised on pedestals just within the middle pair of the outer row. The cella has two divisions, a long cultus chamber to the east and a treasury at the west end; the former is divided by two rows of six columns each, the latter has two interior columns for the support of its roof. These chambers were on different levels, the floor of the larger of the two being elevated over a metre above the level of the other which corresponds to the general level of the platform. The excellent state of preservation in which the walls and columns at the east end were found makes quite clear the method by which the whole building is to be restored. There are fifteen columns standing

to heights ranging from 8 to 20 metres, including the eight columns of the front row and all the interior columns of the porch. The inner columns of the porch are all of slightly smaller scale than those of the outer row; but two of them, those of the second row on either side of the main axis of the temple, are elevated upon cubical pedestals so that their bases are set at least 2 metres higher than those of the columns about them (Fig. 2). These columns are fluted, and are of



FIGURE 2. — THE TWO COLUMNS AND EASTERN PORCH OF THE TEMPLE OF ARTEMIS, June, 1912 (from the North).

very much smaller scale than any of the others: one of them has a Lydian inscription carved on the foot of its shaft. The sides of the two pedestals are quite rough above the two lower courses, and were certainly left in this condition to receive sculpture in high relief. The joints between the stones are very true, though the rough bosses project irregularly as much as 15 centimetres from the intended background. The position of these pedestals suggests a new plan for the restoration of the sculptured pedestals discovered at Ephesus, which are

usually restored so as to appear under all the columns of the front row, on a lower level from which steps ascend to the general level of the platform. There is no suggestion, however, that the lower drums of any of these columns of the Temple of Artemis at Sardes were to be sculptured in the manner of the *columnae caelatae* of Ephesus. Owing to the difference of level between the pavement of the porch, *i.e.* of the platform, and the interior of the cultus chamber, the great portal opens



FIGURE 3.—INTERIOR COLUMNS OF EASTERN PORCH, ANTAE AND DOORWAY OF THE TEMPLE OF ARTEMIS (from the Northeast).

upon the porch at a level about a metre and a half above the floor. The condition of the wall below the threshold leaves no room for doubt that a flight of steps, set between parotids, led from the porch to the interior of the cella at this end. The jambs of the portal are standing to a height of about 3 metres, and the walls on either hand and the very salient antae are still standing from 4 to 6 metres high (Fig. 3). The absence of columns between the antae or between the columns which stand in front of them leaves a broad area (17 m. \times 13 m.) within

which no supports for a roof are provided, and suggests a possible hypaethral opening at this point directly in front of the great doorway, which would have given light to the whole interior when the doors, if such there were, were open. The widest spans required for the roof beams were those of the pteroma, where, for lack of an inner row of columns, which would have made the temple dipteral, beams over 8 metres in length were required, and this span was very great when it is



FIGURE 4.—BASE OF THIRD COLUMN FROM SOUTH END IN FRONT ROW.

remembered that the beams carried a roof of marble tiles of which there is ample evidence.

The architectural details which have been brought to light by the excavations are sufficient to authorize an almost complete restoration of the temple, and afford, with other material, a basis for working out the history of the building. The carved ornament throughout, and the perfect workmanship shown in the masonry of the walls, are of such a high type as to leave no doubt that the temple was designed early in the fourth century B.C. Two complete columns, thirteen stumps

of columns, the largest of which are just short of seven feet (2.11 m.) in diameter, together with two bases and four capitals which are not in place, illustrate the thorough and careful methods of the construction, and the restrained and delicate beauty of the ornament of the Ionic Order as employed here. Several sections of architrave give the scale and design of the lowest member of the entablature; the frieze is not represented in any of the details that have come to light up to the present,



FIGURE 5. — BASE OF COLUMN OF SECOND ROW ON THE SOUTH SIDE.

and the only part of the cornice found thus far is a great lion's head which served as a water spout in the uppermost member. It may be that the frieze was omitted, and that we have what has been called an "architrave order." Three of the columns of the front rank and two on either side of the main axis, at the ends of the antae, as well as the two on the high pedestals, have a richly carved torus above the two deep scotias of their bases. These torus mouldings present five different designs, four of which are foliate — the oak leaf (Fig. 4), the bay, and two

sorts of water leaf, the fifth being the guilloche (Fig. 5), similar to that used in the bases of the north porch of the Erechtheum. There are neither the flat decorated bands substituted for the torus, nor the twelve-sided panelled plinths in place of scotias, which are the striking, and apparently later, features of the Didymaeum. The capitals show considerable variety, some being earlier and some later, as I shall endeavor to show later on; but, of the earlier type, one of those (Fig. 6) which was unearthed on the south side of the temple is the most beautiful of all. Here the volutes are much simpler than those in the capitals of the Erechtheum, but present a most subtle and



FIGURE 6. — CAPITAL FOUND IN THE MIDDLE OF THE SOUTH SIDE OF THE TEMPLE.

beautiful curve; the abacus is composed of open egg-and-dart of early pattern, and the carved ornament, instead of being applied to the neck of the shaft, appears in two scrolls of acanthus upon the volute band, — a feature not uncommon in Asia Minor, — and in inverted palmettes which have the appearance of being applied to, not worked upon, the three great eggs of the echinus. The side view of this capital reveals charming designs of leaves in scale pattern, and palmettes. The capitals from the inner row of columns present an interesting feature in the bolster (Fig. 7), the curve of which, between the volutes, falls at an angle much steeper than that of the outer capitals. The architrave has three bands and a salient cyma-

tium. The whole cella is girt about with a plain torus on the level of the torus mouldings of the column bases. Above this is a high plain surface beautifully finished, which terminates above the torus in an apophyge and fillet, and forms a sort of dado below the diminishing courses of draughted masonry above it. This moulding also forms the bases of the antae, the shafts of



FIGURE 7.—CAPITAL FROM THE INNER ROW OF COLUMNS.

which are worked to a surface of wonderful smoothness in which the joints are hardly to be detected. We were so fortunate as to find a sufficient number of fragments to complete a restoration of the anta-caps. The design is composed of a broad band, or frieze, of very simple wreaths beneath a bead-and-reel and a carved Lesbian on one block: the block above this, which overhangs slightly, consists of a bead-and-reel

below a very heavy egg-and-dart, almost as large as those of the echinus of the capital, above which is a projecting corona and, probably, a cymatium which is broken. The whole composes a new and beautiful design. The jambs of the great portal are triple banded, with carved mouldings between the bands; its outermost moulding is a cavetto carved with exceedingly rich and delicately executed anthemias and palmettes. Above this feature, which was of course alike in jambs and lintel, was apparently a frieze. Its height is to be determined from a profile left on the consoles which flanked it; but whether it was plain or carved we cannot say. Over this was a dentil course and a projecting corona. The huge consoles which completed this door cap on either hand are charming examples of graceful design and delicate carving.

But there is evidence in many of these details which shows that the temple was not completely finished at the time when it was finally abandoned. Much of the carving is only blocked out and much is in a half finished state. It will take time to determine how much of this was left unfinished in the original building and how much is due to late repairs; but it is plain now that the temple was in use before the end of the fourth century. It had been roofed in and covered with marble tiles, and an important document¹ had been inscribed upon the wall of the treasury between the years 306 and 303 B.C. In the ruins of the west end of the temple, every column drum that was found is fluted, every other fragment of the columns is finished, and all the mouldings that are in place, except one in the interior, are in a completed state. At the east end, on the contrary, none of the columns is fluted excepting those on the pedestals, some of the torus mouldings are carved, while others are left plain; many of the scotias are not entirely finished; there are plinths with "quarry edges," and parts of the great base moulding of the cella are only blocked out. Only the portal with its ornaments was in a finished state. Now some of these unfinished details belong certainly to the building erected in the fourth century, others not only have the appearance of being later, but are proved to be later by an inscription, on the

¹ 'Greek Inscriptions from Sardes,' *A.J.A.* Second Series, XVI (1912), p. 11.

fillet at the foot of the column on the right of the middle intercolumniation in the front row as you enter, which refers to the temple as "rising again," and the letters show that this inscription belongs to Imperial times. A comparison of the two capitals which are still in place reveals the fact that one of them is an early original, while the other is a Roman copy, one having the open egg-and-dart of the Greeks in its abacus, the other having the flat egg-and-dart closed above with a fillet which is characteristic of Roman work. Some of the ornamented scotias are certainly Greek, though they still have lifting-bosses that have not been cut away; others do not look like good Greek work. The earlier scotias, some finished, others unfinished, have the lines of early Ionic bases in Asia Minor, firm and spreading; those which appear to be later, though none of them is entirely finished, could never be converted by any means of carving into the older type. It is interesting to note that for every detail which is unfinished there is a model for its completion. Each plinth has a small carefully worked section on all four faces, and lines on the top to mark the finished square, the reeds and the cove mouldings of the scotias are all brought to a finished state in one or more small places. The unfluted shafts have highly finished bands at intervals with lightly incised lines indicating where the two edges of the arrises were to come; for every departure from a straight descending line an apophyge, perhaps not more than 20 centimetres wide, is worked at intervals not widely spaced, and the future profile of every moulding has been carved, in samples, to guide the artisans in their final work.

As the result of my observations thus far, I have come to the conclusion that the east end of the fourth-century temple was in an unfinished state, so far as the final touches of the stone-cutter were involved, when it suffered injuries sufficiently severe to necessitate the taking down of most of its columns. This may have been the result of the historical earthquake of the year 17 A.D. In any event, it seems certain that all the shafts at this end had to be rebuilt,—I presume it would be quite impossible to dismember a fluted shaft and rebuild it again. Some of the capitals were taken down and put back again; others, which had been injured, were replaced by copies

none too good. Several of the lower members of the bases had also to be replaced; but I believe a number of the old torus mouldings, which are cut upon a separate block of stone, were reset upon new scotias; for a torus like that carved with oak leaves (Fig. 4) is certainly not Roman, and the scotia below it, though unfinished, could never be made to resemble the true Greek scotias that appear below the guilloche (Fig. 5). Even the second attempt to finish the building was not successful; for the temple was either overwhelmed by another earthquake, or was simply abandoned, before the flutings of the new shafts were executed. Another strange feature of the temple, connected with the repairs, is the very irregular manner in which the foundations of some of the columns were encased in concrete. It will be understood that a temple of this scale did not have a solid crepidoma, or platform, of stone, and, consequently, had no true stylobate. The walls had their foundations deeply laid, and each column stood on its own independent foundation. The spaces between these foundations, outside and inside the temple, were filled with earth and covered with a pavement. After the catastrophe which injured the temple, trenches were dug about the foundations of certain columns, and were filled up with concrete, in some cases to the top of the foundations, in others only half way up; in one the trench was wide, in others quite narrow; so that these concrete casings, when exposed to view, present no plan of symmetry. It is in this way that we may account for the absence of outer steps of any kind, unless we assume that even these lowest details were removed by the quarry men who despoiled the temple in the Byzantine period.

In the process of excavating the east end of the temple we discovered a small and very early Christian church that was built against the southeast angle of the peristyle at a date when the platform and the bases of the columns of the temple already had been buried. This little structure (Fig. 8), which is entirely of brick, is extraordinarily well preserved, having lost little but its wooden roof. The half-dome of its apse is quite intact, and still protects the primitive altar, which was found *in situ*. The pavement of marble slabs is in good order, but the plaster has fallen from the walls, carrying with it what-

ever painted decorations there may have been. The altar consists of a crudely cut block of sandstone set upon a short section of a column of about 30 centimetres diameter. It is a true table-altar with a single support. Directly east of the small apse, and on the same axis with it, is another larger apse (Fig. 8), the half-dome of which has partly collapsed. This second apse is larger than the other, and embraced almost the entire



FIGURE 8.—CHRISTIAN CHURCH AT SOUTHEAST ANGLE OF THE TEMPLE
(from the Northeast).

width of the nave; it has three round arched windows separated by colonnettes of early Christian design. It probably belonged to the church at an earlier period, and, after its collapse, was replaced by the smaller sanctuary; thus the length of the nave was shortened by about 4 metres.

As soon as it was definitely known that the temple was in an unfinished state, and that work upon it was probably in process when the building was finally abandoned, it was plain that the chances of finding sculpture during the recent campaign were very small; for the digging was devoted exclusively to the

unearthing of the temple itself, and the excavation, though at the top much longer and wider than the building, at the bottom was just large enough to reveal its outer limits. Hardly any space on the lower levels could be cleared out this year, all the extra width and length of the excavation being devoted to the terraces which carried the railways around the temple on different levels. Two heads, however, rather badly preserved, and numerous fragments, which were found quite accidentally, are enough to show that Sardes could at one time boast of sculpture of the best periods.

In addition to the Lydian inscription which was found upon the foot of one of the fluted shafts, to which I have referred above, and which was fragmentary, a few other fragments of inscriptions in the same script were discovered at the temple on pieces of broken marble bowls and other similar movables, and a longer inscription of twenty-two lines which appears to be intact. The most important of the Greek inscriptions of this season was found at the close of the campaign directly east of the temple, on the next to the lowest level. It is a long document of 138 lines inscribed upon a tall stele, containing a letter dated 4 B.C. from Augustus to the people of Sardes, and, in addition to various important historical data, a reference which shows quite conclusively that the Temple of Zeus was in the same sacred precinct as the Temple of Artemis, and is consequently to be sought near at hand. If the Temple of Zeus here referred to is the temple erected by Alexander the Great, it stood, according to Polybius, upon the foundations of the palace of Croesus.

The great single discovery of the year was the Lydian-Aramaic bilingual text, a document of eight lines in each language almost perfectly preserved and dated by a year in the reign of Artaxerxes. This monument was discovered at the tombs, across the river from the temple, where, with a dozen or more stelae containing Lydian incipitions, it had been built into a late Greek or Roman wall. The stone, as we have it, is the middle section of a tall stele which had been broken in three to make it more serviceable as building stone. In the breaking, the first line of the Lydian text was destroyed; but this is supplied in the Aramaic. The upper section consists of a richly

carved anthemium which, when set in place upon the other section, and elevated upon a third piece, composes a monument of exceptional beauty as well as of great historic and linguistic importance. Stelae of this kind were set up in pairs, one on either side of the entrances to the chamber-tombs of the Lydians. Only one of these tombs has been found thus far with its two stelae in place, flanking a flight of steps; these features were removed, probably at an early date, from all the other tombs that have been opened. Among the other texts found built into this late wall, mentioned above, are several long documents which are most exquisite examples of writing on stone. They appear to represent more than one period of Lydian writing.

The general condition and the contents of the tombs excavated during the past season were very much the same as those of the preceding campaign, described in the report of last year.¹ A larger number than heretofore of tombs containing Lydian pottery were discovered; in two of these the presence of black-figured Attic ware is useful in dating the local pottery as well as the masks and animal figures in terra cotta and the gold objects found with them. Great quantities of pottery were brought to light during the season, including a number of pieces of particular interest; but, as in former years, most of the earthenware vessels were unglazed. The collection of clay lamps was greatly enlarged, and a number of masks, some archaic and others of the fifth century, were found. Many small alabaster and a large jar of alabaster make up a beautiful collection of objects in this material. Several glass bottles with colored patterns of great beauty were found. Numerous bronze mirrors and vessels of bronze only repeat the finds of last year. Of silver objects a smaller number were discovered this season; but gold ornaments continued to come to light in even greater quantities, some of which are perhaps the most beautiful that have yet been discovered in Sardes. Numerous and interesting additions were made to the collection of engraved gems, or seals. These beautiful objects, which are not common in the museums of Europe, and which have been known hitherto as "Greco-Persian," may very well have been

¹ *A.J.A.* XV (1911), p. 452.

of local manufacture, considering the numbers that have already come to light in the necropolis of Sardes, and might perhaps be better termed Lydian seals. One of those discovered this year is a large chalcedony of conoid shape with an intaglio representing the Archaic Artemis holding two lions aloft by their tails. All these seals are of the best quality from the standpoint of technique, and most of them retain their gold or silver mountings, one of the most interesting being the gold mounting of a cylinder seal in perfect condition.

The *personnel* of the expedition was the same as that of last season. Dr. Enno Littmann, Professor in the University of Strassburg, Germany, is in possession of the squeezes and other material bearing upon the Lydian inscriptions, and will have charge of that department of the work which has to do with the Lydian language.

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PRINCETON UNIVERSITY,

September, 1912.

A STATUETTE IN THE PRINCETON MUSEUM¹

IT has long been a matter for comment that nowhere among the extant remains of Greek art, whether plastic or pictorial,



FIGURES 1, 2.—STATUETTE IN THE PRINCETON MUSEUM.

are Amazons represented as women of a single breast. Yet the tradition of their mutilation seems to be the salient detail in

¹To the courtesy of the Director of the Princeton Syrian Expedition, Professor Howard Crosby Butler, I owe the privilege of publishing here this figurine, never before photographed or published. For the accompanying illustrations (Figs. 1-4) I am indebted to the kindness of Professor Clarence H. Young of Columbia University.

the legend as it is generally known in modern times. Attempts have been made to argue that Greek artists referred symbolically to the loss of one breast by adopting for statues of these women a conventional arrangement of drapery whereby one breast is left bare, while the other is wholly or partially concealed. Such reasoning is absurd. It is incredible that, if sculptors had desired to make this suggestion, they should invariably in the extant examples, both from work in the round



FIGURES 3, 4. — STATUETTE IN THE PRINCETON MUSEUM.

and from friezes, have modelled both breasts. The famous free-standing statues of Amazons show no uniformity in the arrangement of drapery. In the Mattei type the left breast is bare, the right wholly covered; in the Capitoline type the reverse is true, while in that of the Berlin Museum and in its variant in Landsdowne House the left breast is bare, the right fully half exposed. In friezes Amazons are shown often with both breasts covered, and again with much variety in the disposition

of the folds, leaving now the left breast nude, now the right, now both. Similar results to these are yielded by the study of the figures of Amazons in vase-painting. As another cogent argument against this theory of symbolic allusion may be cited the fact that the well-known statue of a Girl-Runner in the Vatican is an example of a female figure, not an Amazon, clad in this costume which shows one breast bare, the other covered. The evidence of Greek art then is that the Amazons were not conceived to have been women of a single breast.

It remains true, however, that there was in late Greek literature a clearly defined tradition that the Amazons lacked one breast, and that on this was based the fanciful etymology which derived the word Ἀμαζών from μαζός with prefix of ἀ privative.¹ It might be contended that the tale grew out of the etymology, if it were not possible to trace the story to what seems to have been its first appearance in the best Greek period, where its form has no connection with this linguistic speculation. Hippocrates of Cos, the "Father of Medicine" (born *ca.* 460 B.C.), has a note on the savage practice of Sarmatian women, who, with a tool prepared for the purpose, burned out the right breast of their girl babies, that they might in after years the better draw the bow.² Herodotus³ spread the theory that these Sarmatians were the direct descendants of the Amazons, whence it followed naturally that a custom of the former came in time to be ascribed to the latter. Thus, while monumental evidence is against the conclusion that the story of mutilation had a place in the Greek tradition of the Amazons, literary sources show that even in the fifth century before our era it had gained a foothold in the legend, and that among Graeco-Roman writers it received prominence.

Possibly, however, the first part of this statement is to be modified, inasmuch as there has recently come to light a statuette which represents a woman of a single breast. (Figs. 1-4.) The statuette, now at Princeton, was found on the slope of the acropolis at Ammân in Syria, — Rabbath Ammon of the Old Testament, the site of Syrian Philadelphia. Mr. Butler

¹ Schol. and Eust. *ad Iliad.* III. 189; Diod. Sic. II. 45; Justin, II. 4, 5; Arrian, *Anab.* VII. 13, 2.

² Hippocr. *De Aere Locis et Aquis*, 17.

³ Herod. IV. 110-117.

records that it belonged to a heap of broken pottery and other débris which had washed down from higher levels. Therefore the circumstances of its finding afford no clue to its date. The material is rough terra-cotta of a dull yellowish brown finish, which shows an orange color beneath, wherever the surface is chipped. The statuette is in a state of good preservation, barring the loss of the lower part of both legs and of the left arm, broken off high at the shoulder.

The figure is that of a seated woman. Measured at the back from the lower edge of the support on which she sits to the tip of the pointed cap which she wears, the height is about 14 cm. A full front view gives the impression of a nude woman lacking the left breast; viewed from behind, she appears to be clothed in a close-fitting garment of which the general outline and the gay pattern are indicated in dark brown pigment. Nor is this the only discrepancy between the two views. The torso is something over a centimetre longer at the back than in front. The error is easily explained, however, by supposing that the workman made a mistake in measuring for the two moulds in which the hollow torso must have been fashioned. In regard to the apparent inconsistency in the arrangement of the attire, we must argue either that the color which once represented the clothing in front has vanished, or that the bodice covered the back, but was cut very low in front. The pattern shown on the back suggests the veining of a leaf. It follows the upward line of the spinal column,—a broad central fibre whence short tendrils branch on either side. A broad band of the same color about the hips shows the demarcation between the woman's body, seen from behind, and the support on which she sits. The tall pointed cap is adorned with a similar pattern, which may here be described as a "band and leaf" design. It is arranged in three vertical rows, one up the back and two on either side, and a border of pigment outlines the lower edge. Elsewhere on the figure there are faint traces of color, notably on the wrist and forearm of the surviving arm and defining the fingers of this hand. Close examination reveals a few remnants of the pigment on the abdomen and also on the inner sides of the legs above the knees, but these hints at color are so slight that they give little help toward solving the question

of the general appearance when the statuette was new. In fact, except for a spot of rather well preserved pigment near the navel, these other supposed traces may be only stains due to corrosion. It should be added that about the chest and shoulders there are no indications of any sort of color. The left breast is completely lacking, and it is noteworthy that there is no attempt to represent a scar here, as if the woman had once been mutilated. The surface is quite smooth and uninterrupted. Across the left shoulder there is an object best explained as a quiver, for the angle of its placing shows that it cannot be the fragment of a lance, while in shape it resembles no other weapon. It is broken at its lower end, but there are no signs of its ever having been attached to the body at any other point than the shoulder. The face, under the cap pulled far down over the forehead, is grotesque, with straight lips a little open and pouting, huge pyramidal nose, and great eyes, of which pupils, lashes, and brows were brought out in pigment.

The most striking feature of this strange and interesting figure is the lack of the left breast. There are two possible hypotheses: either that the coroplast deliberately portrayed a unimammal woman, or that, when the statuette was complete, the left breast was concealed in some way, so that he deemed it unnecessary to take pains to model it. If the second supposition be correct, it should be an easy matter to conjecture how the breast was hidden. On the contrary, it is impossible to imagine any arrangement which could have effected this result. As has already been remarked, there is no basis for the belief that the quiver was attached to the body elsewhere than at the shoulder. Therefore this object did not conceal the breast. It might be reasoned that the left arm should be restored in a position resembling the gesture of this arm shown in a bronze statuette from the Troad, a little figure, now in Berlin, classed as Mycenaean.¹ It represents a woman in flounced skirt and tight bodice, who stands holding her right hand across her eyes and stretching her left arm over her body to her right shoulder. By this arrangement the left breast is

¹ Perrot and Chipiez, *Histoire de l'Art dans l'Antiquité*, Vol. VI, p. 754; Fowler and Wheeler, *Greek Archaeology*, p. 65, Fig. 25.

completely hidden. In the case of the Princeton figurine, if the left arm was originally so placed, there would now in all probability be an indication of its having been attached to some part of the torso. Furthermore, the arm, if it had been thus extended, would certainly have interfered with the contour of the right breast. Yet this is modelled in its entirety. It must be stated then as the only possible conclusion, that the designer purposely omitted the left breast.

Who is this strange person? The gay markings on her back suggest the conventional dress of Persian and Scythian archers, as drawn by Attic vase-painters. The cap—for cap rather than helmet it doubtless is, as indicated by its decoration—is in a general way similar to those known as “Phrygian,” although it is not so limp as these. It finds a far better parallel in the stiffly erect head-dress of a prehistoric lady from Petsofa (Candia).¹ Indeed, in shape the two are almost exactly alike, if in imagination the peak of that in the Princeton statuette be prolonged beyond the point where it is broken. Since the traces of color are so well preserved on the back of the figure, it is reasonable to argue from the scanty traces on the front that very little clothing was indicated on the front. At any rate, if there was color here originally, it depicted a tight bodice which showed all the anatomical details. Close-fitting gowns and also those cut very low in front are to be found represented only among the remains of “Mycenaean” and “Minoan” art. So in the unusual garb portrayed in the figure, as well as in the cap, there is suggestion of “Mycenaean” influence. Two more details support this statement: first, that the color scheme, a pattern in reddish brown pigment laid directly on a lighter surface of yellowish brown, is that of the ruder “Mycenaean” pottery, and, secondly, that a view of the right profile of the statuette, taken a little from the rear (Fig. 3), shows a striking resemblance to the slim-waisted “Mycenaean” and “Minoan” women who have the high bust which comes of tight corseting. From this angle the woman is indescribably trim and modish. But she lacks the hooped and flounced skirts of the prehistoric women of Crete and other countries where “Mycenaean” culture flour-

¹ *B.S.A. IX*, pl. 8; Fowler and Wheeler, *op. cit.*, p. 46, Fig. 5.

ished. Her apparent "Mycenaean" affiliations are, however, worth noting.

If it could be maintained that the spot where the statuette was found was in the near neighborhood of the place of its manufacture,—if, in other words, it were certain that it was, properly speaking, of Syrian provenience, the suggestions of "Mycenaean" influence might be easily explained, for it is in this region that remains have been brought to light which bear out the theory that here refugees found harborage after they had been scattered by the catastrophe generally named the Dorian Invasion. But it is dangerous to make any sort of inference concerning the original situation of a terra-cotta found as this was.

There seem to be three possible interpretations of the figurine: (1) that it represents a goddess; (2) that it represents an Amazon mutilated as were the Sarmatian women of whom Herodotus speaks; (3) that it represents a mortal woman, but not an Amazon.

The first theory has to commend it the fact that the woman is seated, but it is hard to explain the meaning of a deity with a single breast, unless perhaps the one breast, like the many, may be taken as a symbol of motherhood. In that case this might be a peculiar form of the nature goddess of the Orient and of primitive Greece. In the lack of analogues it is dangerous to hazard such an interpretation, especially when it may be urged against the theory that the great seated statues along the Sacred Way at Branchidae show conclusively that a seated figure does not necessarily represent a divinity. Mr. Butler suggests a very plausible explanation of the seated attitude of the figurine; namely, that "the figure was part of some larger object, like the handle of a large crater or other large vase. In this respect it might resemble some of the archaic bronze *athletès* used as handles for large bronze vessels."¹

The conclusion that this is an Amazon is at first sight the most natural of all. Why then is she without the left breast, the loss of which would not be of advantage to an archer? Perhaps the workman blundered, as he evidently did in measuring

¹ It is with the express permission of Mr. Butler that I here quote this statement which he made in comment on my paper.

his moulds, and so omitted the wrong breast, or possibly he was confused in the use of his moulds and so brought about lateral inversion in the finished product, just as ancient makers of coins sometimes erred.

The third theory is based on the fact that among ancient records it is not alone in connection with the Amazons that there is mention of mutilation of this kind. Of the daughter of a Gallus it is told that she sacrificed her breasts, herself cutting them off in an ecstasy of devotion to a goddess who seems to have been Aphrodite of Bambyce.¹ This divinity is Warlike Aphrodite of Syria, who had her most famous shrine in this city, called also Hierapolis,² and who had other well-known sanctuaries in the land, as at Laodicea³ and Ascalon.⁴ The place last named was looked upon as the original home of the Greek cult of Aphrodite Urania,⁵ and it was thence that the Scythians were said to have derived characteristics of their Argimpasa.⁶ Connected with the latter statement is the curious tale that Aphrodite of Ascalon in revenge on the Scythians for having sacked her temple made the spoilers androgynous, whence it happened that always among this people there were such persons, whom they called 'Evapées.⁷ If the statuette is to be interpreted in the light of these facts, it is necessary to see therein a votive offering commemorating the devotion of some woman to a goddess akin to the Dea Syria of Hierapolis. The worshipper is represented as the emulator of the heroic act of which Arnobius tells, a deed unhappily only too similar to the fearful practices which belonged to the rites of many Asiatic shrines. The object on her shoulder, if it be a quiver, she may wear as the token of her special goddess, perhaps a Syrian Artemis, accorded to her as badge of priestess, or it may be a re-

¹ Arnobius, *Adv. Nat.* V. 7. See Farnell, *Cults of the Greek States*, III, p. 306.

² On the Galli in the worship of Aphrodite and on the practices of self-mutilation at the shrine in Bambyce see Farnell, *op. cit.*, II, p. 644.

³ The goddess was also identified with Artemis, Paus. III. 16, 8.

⁴ Paus. I. 14, 7. See also Herod. I. 105.

⁵ Paus. I. 14, 7.

⁶ Herod. I. 105; IV. 59.

⁷ Herod. I. 105; IV. 67. These Androgynæ play an important part in J. L. Myres's theory of the Amazons, stated in Marett's *Anthropology and the Classics*, pp. 133 ff.

ligious symbol unknown to us. It is tempting to believe that the temple for which the terra-cotta was designed stood on the acropolis at Ammân, where it was found. It may be supposed even further that the thought of this kind of self-mutilation on the part of women was familiar to the people of this region, that from Ascalon, which is not far from Ammân, the Scythians took it back with them to their northern homes, and that in distorted form, as a practice of the Scythian Sarmatians, the Greeks heard the tradition and applied it to the Amazons. The supposition borrows color from the statements of Herodotus¹ about the details which the Scythians took from Syrian Aphrodite for their own Argimpasa. It is a quaint fancy to see in the queer tale that the Amazons were possessed of a single breast a faint reflection cast from the orgiastic rites of a Syrian goddess akin to the Phrygian-Lyidian Mother with whom the Amazons were closely connected. It may be objected that the figurine is rather a memorial of the Scythian invasion, that it refers in some way to the tale about the Androgynæ of Scythia.² But it is difficult to explain it thus. All that we know about these *'Evapées* is that they were men with some of the characteristics of women, whereas in the statuette the female sex is clearly indicated.

The matter of dating the statuette is beset with difficulties. An isolated object of unknown or conjectural provenience can seldom be dated with any accuracy. The "early" of one place is the "late" of another. From its general resemblance of face and form to terra-cottas found on sites where nature goddesses were worshipped throughout the Hellenic world and also in Asia, it seems reasonable to apply to this figurine, not rigorously, but in a tentative way, the principles by which archaic Greek terra-cottas are dated. Thus the earliest possible date

¹ Herod. I. 105; IV. 59. There is no reason to doubt the statement of this historian, that the Scythians invaded Syria toward the end of the seventh century B.C. Similar irruptions of barbarians on civilization have taken place often in the world's history.

² The Orient, it must be remembered, was the home of the strange idea of the confusion of sexes. In the immediate neighborhood of Ascalon, at Cyprus, the Bearded Venus, *Duplex Amathusa*, was revered. For discussion see Farnell, *op. cit.*, II, p. 634; for theories opposed to these see M. Jastrow, Jr., in *R. Arch.* XVII, 1911, pp. 271-298.

for this, judged as a *moulded* figurine, would be somewhere in the second half of the sixth century B.C.

Reviewing the evidence brought together above, I am inclined to believe that the most satisfactory theory is that the figurine was of Syrian manufacture, that it belonged to a temple of Syrian Aphrodite, or Astarte, situated probably at Ammân, and that it betrays the marks of decadent "Mycenaean" influence. Against the theory that it is an Amazon much may be urged: (1) the mass of evidence from Greek sculpture and vase-painting wherein the Amazons are never shown lacking a breast; (2) the fact that, so far as we can glean from the literature of the best Greek period, the tradition of their mutilation was connected with the Amazons only by reason of their supposed kinship with the Sarmatians; (3) the explicit statement of Philostratus¹ that the Amazons were not mutilated, a remark plainly directed against the belief of his day. I believe that the statuette, or the vase of which it may have been part, was the dedication of a woman who wished to commemorate an act or intention of self-mutilation. That the idea of unimammal women belonged to the earliest form of the legend of the Amazons seems to me improbable. I would suggest that it first came into that legend by way of the anthropological theory of Herodotus, which saw in the Amazons the ancestors of the Sarmatians, and that in later times it was helped out by specious essays in etymology. Strangely enough, the barbarous Sarmatian practice seems to have come from the rites of Syrian shrines, whence echoes found their way into Greek cults, thereby presumably reënforcing the stories from Scythia. Thus indirectly, through the influence of Ascalon on Scythia, this figurine is to be associated with the tradition of the Amazons.

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¹ Philostr. *Heroid.* XX. 42.

MINERVA VICTRIX?

NOTE ON THE WINGED GODDESS OF OSTIA

IN *Not. Scav.* 1910, pp. 229 ff., the discovery at Ostia was announced of an interesting statue, which Vaglieri described as follows: “. . . un blocco di marmo (m. 2.40 × 0.80 × 0.95) che formava uno stipite di una porta o di un arco. Vi è rappresentata sulla fronte una Vittoria in piedi, dal tipo di Roma Minerva, o addirittura una Roma alata, che però crederei nuova nell' arte (*Roma victrix*, secondo un' idea espressami dal prof. Milani); le ale occupano i due lati. È vestita di *peplos* con cintura attica; ha in testa un elmo a tre creste e ai piedi i sandali. Il braccio destro poggiava sullo scudo, dove rimangono tracce della mano; il sinistro, scolpito a parte, era alzato. Lo scudo rotondo, che ha nel centro il *gorgoneion* dal tipo umanizzato, poggia sul masso; sia questo fatto, sia la forma dello scudo, siamo innanzi a motivi evidentemente derivati dalla *Parthenos* di Fidia, cui del resto è noto collegarsi questo tipo di Roma.” Our illustrations are taken from photographs kindly presented to the Princeton Art Museum by Professor Vaglieri.

The statue was found near the large building, formerly called the “Temple of Jupiter,” which is dated by brick stamps of the years 128 and 129 A.D.¹ The statue also doubtless belongs to the reign of Hadrian, a period when the influence of Phidian models was not uncommonly felt.²

Since the figure is evidently a Phidian derivative, it is natural to seek its prototype in the fifth century. I have been unable, however, to find any examples of a winged Athena in fifth century Attic art, but the existence of the type in the

¹ *Annali*, 1857, p. 313.

² Cf. Furtwängler, *Meisterwerke*, p. 31, on the Antinous type.

sixth century is shown by a black-figured vase found at Orvieto and illustrated in *Röm. Mitt.* XII, pl. xii. On this vase are two representations of Athena, one with and one without wings. Körte¹ expressed the opinion that this was an Etruscan and not a Greek type, but Savignoni² pointed out that the vase exhibits all the characteristics of sixth century Attic art, and he is undoubtedly right in considering it Greek.

A Boeotian coin illustrated by Savignoni in his article, and dating 288-244 B.C.,³ shows that the type continued in Greece.

We know, however, that the Goddess Athena Nike of the famous temple on the Acropolis was wingless in view of her common designation as Nike Apteros.⁴ But the goddess Nike was originally merely an aspect of Athena and only gradually gained an independent existence with characteristics of her own, among which were the wings with which she was commonly represented. During



FIGURE 1. — WINGED FIGURE FROM OSTIA.

the fifth century there was still considerable confusion in regard to the relation of the two goddesses, and the old type of Athena Nike still existed.⁵ After the winged type of Victory

¹ *Annali*, 1877, pp. 128 ff. No. 12.

² *Röm. Mitt.* XII, pp. 307 ff.

³ Head, *Hist. Num.* 1911, p. 353.

⁴ Paus. I. 22. 4.

⁵ Cf. L. Baudrillart, *Les Divinités de la Victoire*, in *Bibl. Éc. Fr.* LXVIII, pp. 5-21, and the references there given.

had become established, it does not seem improbable that the old conception, Athena Nike, was sometimes represented by a



FIGURE 2. — WINGED FIGURE FROM OSTIA.

winged Athena type, as well as by that of a wingless Victory. The former type would certainly represent the idea more clearly. But if it existed, the absence of direct evidence for it shows at least that it never became common, and it is impossible at any rate to find an existing Greek model for the Ostian statue.

What Roman goddess are we to suppose that the Ostian figure was meant to represent? A Roma Victrix, as Professor Milani suggested, or the Roman counterpart of Athena Nike, Minerva Victrix? Both of these titles are found occasionally on coins of the Empire. In no case, however, is such an inscription accompanied by a representation of a winged Athena.

Examples of the type are common in Etruscan art,¹ but the only Roman one which I have found is the

figure on the reverse of a coin of Domitian.² The inscription reads: IMP XXII COS XVII CENS P PP. Cohen describes

¹ I have found the following examples: Reinach, *Répertoire*, II, p. 297, Nos. 2, 3; p. 393, No. 7; *Annali*, 1872, tav. N; Gerhard, *Etr. Spiegel*, I, Taf. 69, 87; II, Taf. 133, 134; III, Taf. 246, 254 A; IV, Taf. 286 (2), 305; *Arch. Zeit.* 1851, Taf. xxvii.

² Cohen, I. Domitian, No. 294.

the figure as follows: "Pallas ailée marchant à gauche et tenant une haste et une bouclier." The type is therefore unlike our statue in that it represents a variety of Athena Promachos instead of Parthenos. It is practically certain, however, that we have on this coin a Minerva and not a Roma, for Minerva was Domitian's favorite divinity and representations of her occur very frequently on the coins of his reign.¹ It seems natural to suppose that the type was taken from a Greek Athena Nike of the kind whose existence has been considered above. In any case, there can scarcely be question that it is Minerva Victrix that is represented on the coin. We have no means of knowing whether Minerva Victrix was also represented in Domitian's time by a winged Athena *Parthenos* type. If this was true, our Ostian statue might well be considered a revival thereof.

The likelihood that our statue represents Minerva Victrix is increased by the fact that, if the evidence of the coins can be trusted, the conception of Minerva Victrix was much more common under the Empire than that of Roma Victrix. An examination of the reverse inscriptions given by Cohen reveals twenty-one examples of Minerva Victrix (exclusive of replicas), but only four of Roma Victrix, and it is worthy of note that the latter inscription does not survive the reign of Titus.² It seems likely, therefore, that the conception Minerva Victrix first became popular under Domitian and continued in use in later times, especially after the decline of the popularity of Roma. The small amount of additional material which I have found in the course of an examination of the dedicatory inscriptions in the sixth volume of the *Corpus*, and of the indices of the *Corpus* so far as they have appeared, confirms this view. No dedications to Roma Victrix were found, but two to Minerva Victrix, one in Dacia and the other in Pannonia Inferior, both

¹ Cf. S. Gsell, *Essai sur le Règne de l'Empereur Domitien*, *Bibl. Éc. Fr.*, LXV, p. 76, and the references there given.

² Roma Victrix: Cohen I, Galba, No. 401; Vespasian, Nos. 428, 429; Titus, No. 191. Minerva Victrix: Cohen III, Commodus, Nos. 364, 365 (= 366), 367 (= 368), 369 (= 370, 371, 372, 373), 374; Pescennius Niger, Nos. 53, 54; IV, Septimius Severus, Nos. 326, 327, 328; Caracalla, Nos. 158, 159 (= 161), 160, 162, 163, 164; Geta, Nos. 86, 87, 88; Orbiana, No. 9; Uranius Antoninus, No. 4.

dating from the reign of Septimius Severus.¹ The winged type, which undoubtedly seemed eccentric, was evidently discontinued, as no other examples of it have been found. A winged Athena, however, would evidently have been the most appropriate, and the only *distinctive* type which could have been selected to represent Minerva Victrix, for the Nikephoros type, which was used indiscriminately for Roma, Roma Victrix, and Minerva, as well as for Minerva Victrix, was certainly not distinctive.

Briefly, the winged goddess of Ostia represents a fusion of the Parthenos type and the Victory motif, whether this fusion be derived from a Greek Athena Nike or be due to the originality of the Roman artist. In all probability it stands for Minerva Victrix and not for Roma Victrix. For the only other known Roman example of a winged Athena type represents Minerva and not Roma, and the conception of Minerva Victrix appears to have been more popular under the Empire than that of Roma Victrix, particularly from the reign of Domitian on.

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¹ Jung, *Arch.-epigr. Mitt.* XIX, p. 69; *Prosop. Imp. Rom.* s.v. C. Valerius Pudens.

SAN SAVINO AT PIACENZA

II. ORNAMENT. CONCLUSIONS

THE ornament of San Savino has suffered even more severely than the structure in the recent restoration, since many of the



FIGURE 4.—EASTERNMOST ALTERNATE PIER ON SOUTH SIDE OF NAVE;
SHOWING CAPITAL WITH INSCRIPTION.

capitals of the main body of the church, mutilated in the barocco period, have been remade or restored. They are orna-

mented with grotesques, rinceaux, interlaces, volutes, acanthus leaves, and other motifs typical of the Lombard style (Figs. 1,¹ 2,¹ 4, 5, 6, 7). They are, as a rule, extremely refined in character; the patterns are small, the composition compact, the whole effect restrained. In this, they fall midway between San Michele of Pavia, and San Pietro in Ciel d' Oro in the same

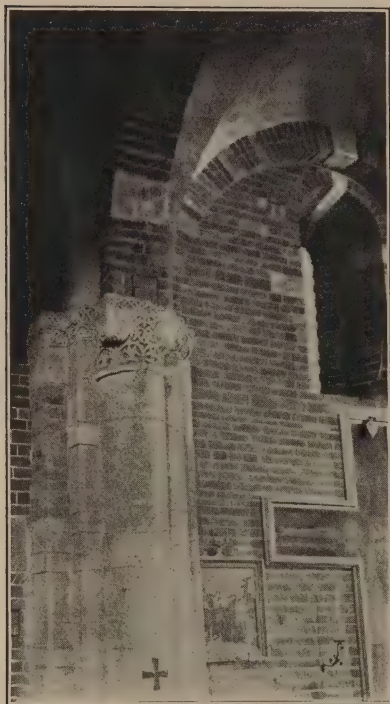


FIGURE 5. — EASTERNMOST RESPOND IN SOUTHERN SIDE AISLE; SHOWING CAPITAL AND SPRINGING OF THE VAULTS.

city, approaching the latter far more closely than the former. The capitals of San Savino all appear to be about contemporary with each other, although those in the western part of the church seem to me to be somewhat later than those in the eastern. Many of these capitals have been restored in whole or in part. In some cases the date has been carved upon the capitals to indicate that they are new, and at present it is generally possible to distinguish the restored portions by the different color of the new stone, as well as by the harder quality of the carving. The capitals which have been most made over appear to be: in the northern side aisle the capitals of three eastern responds; on the north side of the nave, the easternmost

capital at the corner of the choir, the one of intermediate support next to it, and the intermediate support of the centre bay; on the south side of the nave, the eastern capital at the eastern corner of the choir; in the south side aisle the two eastern responds. On the abaci of two of the capitals are

¹ Figures 1, 2, and 3 are in my paper in the last number (XVI, 3) of this *Journal*. See above, p. 361, p. 362, and p. 366.

inscriptions; one (Fig. 4) tells us that the herdsmen gave to Savino the beautiful capital and its column;¹ the second, unfortunately without date, records the construction of the church.² The rail of the crypt entrance is entirely modern.



FIGURE 6. — CAPITAL OF THIRD PIER
FROM WEST ON SOUTHERN SIDE OF
NAVE.

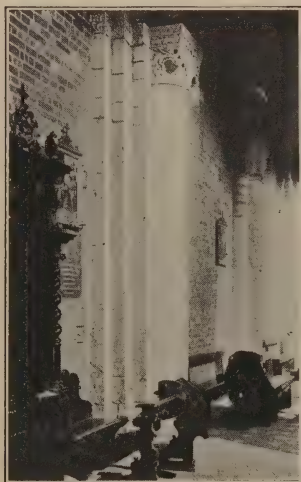


FIGURE 7. — EASTERNMOST AL-
TERNATE RESPOND IN NORTH-
ERN SIDE AISLE.

The capitals of the crypt are of two epochs. The greater number are obviously contemporary with those of the upper church, though, perhaps, some years earlier (Fig. 8). Three, however, are of a style entirely different, and undoubtedly belonged to the church of 903. They are of importance for the history of art of the tenth century, and I give illustrations of two of them (Figs. 9, 10).

¹ CORDE TIBI DULCI DANT
HOC SAVINE BUBULCI
SCILICET HOC BELLU CUM
CESPITE DANT CAPITĒLLŪ

² NUNC RENOVATŪ TIBI
DAMUS SAVINE SEPULCHRUM
HOC TIBI VENUSTUM
ARTE PIETATEQUE TEMPLUM

The most notable ornament of San Savino, however, was the mosaic pavement, considerable fragments of which are still extant. One of these, in the crypt, has been supposed to date from 903. Such, however, cannot be the case. The remains of an earlier apse, and the style of the capitals, make it perfectly clear that the existing crypt is contemporary with the



FIGURE 8. — CAPITAL OF 1107 IN CRYPT.

main body of the church. Now the mosaic was clearly made for this crypt, and is not the remains of an earlier building fitted in at haphazard. Furthermore, the style of the mosaic is entirely analogous to that of the pavements of Cremona, Polirone, Pavia, Aosta, Reggio, Acqui, Ivrea, and Vercelli, all of which are known to be of the late eleventh century or twelfth century, and is, on the other hand, entirely different from that

of the Carolingian mosaics of which we have examples in the Rotunda and S. Pietro of Brescia,¹ and at Santi Felice e Fortunato of Vincenza. In these earlier mosaics, figures are not represented. The design is a purely formal one of squares or other simple patterns in which are inserted inscriptions. Indeed, it is known that in 1066, when Desiderio wished to adorn with mosaics the abbey of Monte Cassino, he was able to find in Italy no mosaic workers capable of executing a pictorial design. It may, therefore, be reasonably inferred

¹ Federico Odorici, *Storie bresciane dai primi tempi sino all' età nostra*. Brescia, Gilberti, 1855. 12 vols. 8vo. II, 220.

that the art of executing pictorial mosaics, even in a pavement, had died out in Italy. It is, in fact, only after the second half of the eleventh century that we find pictorial compositions represented in pavements. The pavement of the cathedral of Murano, an authentically dated example of 1040, shows the state of the art in the first half of the eleventh century. The design is purely formal, and without iconographic significance. In the mosaic of Acqui,¹ now at Turin, we have a monument of the seventh decade of the eleventh century in which there is evident, for the first time, an attempt, crude it is true, to depict definite figures with a certain amount of meaning, although purely formal or grotesque design still occupies the greater part of the composition. In the later pavement of Cremona (executed between 1107 and 1117) the grotesque elements are relegated to a secondary position, and we have a representation of the combat of the virtues and vices according to Prudentius. After this, in the Lombard pavements we find always subjects



FIGURE 9. — CAPITAL OF 903 IN CRYPT.

of grave theological significance, full of iconographical complications, in which grotesques and purely ornamental figures either do not enter, or play a purely subordinate part. It is to these later pavements of the very end of the eleventh or of the twelfth century that the mosaics of Piacenza are analogous, and, in fact, their style is precisely such as we might expect to find in a monument finished in 1107. We shall presently see how closely this pavement is connected with others of about the same date by resemblances of technique and iconography.

¹ Venturi, *Storia dell'arte italiana*, III, 434.

The mosaic of the crypt has been somewhat damaged, but, fortunately, the general lines of the composition are clear enough. It represents the works of the twelve months of the year with the signs of the zodiac. The months begin with January in the northeast corner, and proceed from left to right and downward to December. Each is placed in a circular medallion about which is an inscription. The last ten, from March to December inclusive, are placed apart from the other two in a quadrangle formed by a formal border on three sides, and, on the western side, by a series of genre scenes which I

shall describe later. Within this border, forming a background to the medallions, is a series of zigzag lines, which doubtless, in the thought of the artist, represented the sea. Placed irregularly on this are fish, mermaids, and sirens.¹



FIGURE 10. — CAPITAL OF 903 IN CRYPT.

Within the border, the medallions of the months are placed in three rows, the eastern and western of which contain three medallions, the central, four. It is obvious that the composition would normally have consisted of three rows of four medallions, but owing to the fact that the mosaic had to be fitted around four of the crypt columns, the artist was obliged to leave space for these in the first and the last rows, where, accordingly, he was able to put only three medallions. Consequently, two of the months had to be placed outside the quadrangle. The careful manner in which the mosaic is thus adapted to the architecture of the crypt, proves that it was made for its present position and cannot be a remnant of an earlier edifice.

¹ It is, unfortunately, impossible to photograph this mosaic. A water-color by Bozzini has been reproduced in *La Regia Basilica*, Fig. 9, and *Piacenza Monumentale*, p. 43.

The cycle of the months begins with January, placed outside the quadrangle to the east. The representation of the month, which was probably personified by Janus with a double face, has entirely disappeared, but part of the medallion still exists with a fragment of the inscription :

..... SANCIT TROPICVS

This medallion was doubtless depicted as being supported by two figures, one of which, that to the north, is still preserved.

The disk representing February is also outside the square, and was likewise supported by two figures, one of which is preserved entirely, the other only in part. Around the medallion is the inscription :

MENSE NVME IN MEDIO SOLIDI STAT S..... A..... RII

Within the disk, FEBRVARIVS is depicted as pruning the vines, with the sign of the zodiac, the water-pourer, represented in the grotesque manner so dear to the Lombard artists.

The northeast medallion within the quadrangle shows MARCIVS, a man blowing a horn. The sign of the zodiac is two fish. About the disk is inscribed :

PROCELVNT DVPLICES IN MARCIA TEMPORA PISCES.

April holds in his hands two budding shrubs, doubtless emblems of the spring. He is accompanied by a ram, the appropriate sign of the zodiac, and about his disk is the inscription :

RESPICIS APRILIS ARIES FRIXEE KALENDAS.

MAIVS is a youth with a bow and arrows, who leads forth his saddled horse. The sign of the zodiac, a bull, crouches below. About the disk is the inscription :

MAIVS AGENOREI MIRATVR CORNVA TAVRI

In the first disk of the second line is depicted IVNIVS, busily engaged in hoeing. Beside him is the corresponding sign of the zodiac, GEMINI, and about the disk the inscription :

IVNIVS AEQ.....OS CAELO VIDET IRE LACONAS

IVILIVS reaps the grain beside the crab CANCER, a very horrible-looking creature, resembling a lobster ; the inscription has been in part destroyed :

SOLSTITIO ARDENT FERT IVLIVS AVSTRVM

AVGVST . . has also been in part mutilated. It is possible to make out a man swinging a hammer and a barrel below him. The sign of the zodiac is a lion, distinguished also by the inscription LEO. About the medallion we read :

AVGVSTVM MENSEM LEO FERVIDVS IGNE PERVRIT

SEPTEMBER picks grapes, which he places in a basket. The sign of the zodiac (Virgo) has entirely disappeared, as has part of the inscription :

SID M SEPTEMBER OPIMAT

The medallions of the westernmost row are all very much mutilated. Of October, there remains only the lowest part of the name . . TVBER and the scales LIBRA. About the disk is a fragmentary inscription :

AEQVAT ET OCTVBER SEMENTIS TE

Of November, there remains only a fragment of the inscription :

. BER NV T IRE NOV

The medallion of December is similarly much mutilated, but it is still possible to distinguish a man skinning a hog and part of a shooting centaur, with the legend SAGITTARIVS. Of the inscription there remains only a part :

TERMIN IGNA DECEM

The inscriptions of these mosaics, thus fragmentary, would offer a number of difficulties of interpretation, were it not for the happy fact that they are taken verbatim from a poem of Ausonius, by means of which it is easy to restore them. This poem is as follows :

Principium Iani sancit tropicus Capricornus.
mense Numae in medio solidi stat sidus Aquari.
procedunt duplices in Martia tempora Pisces.
respicis Apriles, Aries Phryxæ, kalendas.

Maius Agenorei miratur cornua Tauri.
 Iunius aequatos caelo videt ire Laconas.
 solstitio ardentis Canceri fert Iulius astrum.
 Augustum mensem Leo fervidus igne perurit.
 sidere, Virgo, tuo Bacchum September opimat.
 aequat et October sementis tempore Libram.
 Scorprios hibernum praeceps iubet ire Novembrem.
 terminat Arquitenens medio sua signa Decembri.¹

On the western border of the mosaic are represented a number of single figures. To the north, apparently a shooting centaur, much damaged; then a person on horseback holding a lance, who was probably opposed by another similar figure; then two persons apparently wrestling together, two men fighting together with shields and spears, and finally a unicorn and the Virgin, without, however, any hunters.

It is evident that this mosaic is something more than a simple representation of the twelve months and corresponding signs of the zodiac. The key to the interpretation I believe to have found in the *Hexaemeron*² of St. Ambrose. Here, in speaking of the creation of the sea, the saint calls to mind the words of the Psalmist: "The sea saw it and fled, Jordan was driven back";³ and again: "The waters saw Thee, O God, they were afraid, the depths also trembled, the clouds poured out water."⁴ From these passages, the saint meditates, it is evident that at the command of God the waters come together or separate, fear, flee, or are troubled. At the bidding of the Almighty did not the waters of the Red Sea divide to let the children of Israel pass through in safety? Now, what are the waters, thus obedient to the command of God, but the Church, which gathers its faithful from every swamp, from every valley, from every lake, to unite them in the ocean of the catholic faith? The valleys symbolize heresy and paganism, since the scripture tells us "God is in the mountains, not in the valleys."

Moreover, Ambrose goes on to muse, not only is the ocean the symbol of the Church, but the fish who swim about in the sea are the symbol of the men who live and work and die in

¹ Ausonii, *Eglogarum*, liber V, 9, ed. Schenkl, *M. G. H. Auc. Antiq.* V, 2, 13.

² V. 6-7, ed. Migne, *Pat. Lat.* 14, 225-226. Also *ibid.* III, 1, ed. Migne, 14, 167.

³ Psalm cxiv, 3.

⁴ Psalm lxxvii, 17.

the Church. Christ himself told his apostles that he would make them fishers of men. Thus in the ocean and its finny inhabitants we have a complete image of the Church of God and of human life. We therefore see that it was no chance nor caprice of the artist which led him to inlay on the background representing the sea and its inhabitants the labors of the twelve months, and to represent on the western border, between the unicorn, symbol of Christ, and on the other, the centaur,¹ three scenes of the daily life of men, their struggles and combats.

Other mosaic pavements representing the months thus inlaid on the sea are found at Reggio and at San Michele of Pavia. The cycle of the months without the sea is common in later mediaeval iconography, and is a favorite subject for treatment, especially for the sculptors of the Romanesque and Gothic periods. Indeed, the custom of representing the months plastically goes back to remote antiquity, being found, according to Strzygowski,² as early as the thirteenth century B.C. at the Ramesseum of Thebes. From the Egyptians the motive must have passed to the Romans, for the *Tetrastichon Authenticum de Singulis Mensibus*, although it has been ascribed to Ausonius, is undoubtedly as old as the Age of Augustus, and describes such a cycle of plastic representations of the months. However, there are extant no actual examples of such plastic representations of the Roman cycle earlier than the fourth century A.D. Of this period is the mosaic found at Carthage, and now in the British Museum, which has been published by Augustus Wollaston Franks,³ and which contained representations of the twelve months inspired by the *Tetrastichon*. Other similar mosaics of the same time, unfortunately very fragmentary, have been found in Africa and Rome.⁴ Another mosaic, formerly at Sur in the Christian church dedicated in 557 or 652, is now in the

¹ The symbolism of the centaur has never been satisfactorily explained, nor have I been able to find any texts which bear upon it. It is a figure represented perhaps more commonly than any other in mediaeval iconography, and at times, as here, is so used that one strongly suspects that it is not without symbolical significance.

² *Die Calenderbilder des Chronographen vom Jahre 354. Jb. Arch. I. Ergänzungsheft I, 1888.*

³ *Archaeologia*, XXXVIII, 1860, p. 202.

⁴ Strzygowski, *op. cit.* p. 50.

Louvre at Paris. Since the style of the workmanship is that of the fourth century, this pavement is believed to have belonged originally to a pagan building, later transformed into a church.¹ The cycle of the months at Sur, however, is of a type entirely different from those in the Roman cycle, and, according to Strzygowski,² can only have been derived from Syrian-Macedonian sources.

The most important extant representation of the months belonging to the fourth century is that of a calendar of 354, published by Strzygowski.³ These drawings make it evident that the Christians adapted the pagan tradition, with very few changes, for the figures in question were evidently directly inspired by the *Tetrastichon* already mentioned. The scenes are extremely complicated, with many symbols referring chiefly to Roman religious observances. Only very rarely do they foreshadow the later types, such as we find in the sculptures and mosaics of the twelfth and thirteenth centuries. However, certain features present some slight analogy with Romanesque and Gothic plastic representations, as, for example, the sign of the zodiac placed beside the month of February, and the fact that the figures depicting the summer months, June, July, and August, are naked.⁴

From the fourth century to the end of the eleventh there is extant not a single plastic representation of the cycle of the months. The poets, however, busily occupied themselves with the subject.⁵ Of the many poems which treated of the months, written during the Carolingian era, by all odds the most important is *Martivs hic Falcon*, published by Biadene⁶ and supposed by him to be of the time of Bede. Here are many details which strongly recall later representations in art. Thus, March is spoken of as holding a knife ready to prune the vine, April

¹ Julien Durand, 'Mosaïques de Sour,' *Annales Archéologiques*, XXIII, 1863, p. 278; XXIV, 1869, pp. 5, 205.

² Strzygowski, *op. cit.* p. 51.

³ *Op. cit.*

⁴ Strzygowski, *op. cit.* pp. 85-86, gives a most instructive table comparing the subjects of the different cycles.

⁵ A copious bibliography of this complex subject is given by Leandro Biadene, 'Carmina de Mensibus di Bonvesin della Riva.' (*Studi di Filologia Romanza*, Vol. IX, 1903, p. 1.)

⁶ *Op. cit.* p. 95.

hoes the field, May trains the vine, August reaps the harvest, September threshes, October sows, December prepares a hog for the feast. A few other Carolingian poems have details which suggest, more or less vaguely, Romanesque and Gothic plastic representations. In the *De Mensibus*,¹ March prunes and August brings apples and fruit. The *Officia XII Mensium*,² written probably in the sixth century, tells how March extends his cares to the vines, July matures the fruit, August dries the grain, September gathers the vintage, October treads the grapes, and December slays the swine. In the *Laus Omnium Mensium*,³ April is spoken of as lascivious, and October as the month of the vintage. On the other hand, certain poems of about the same age, such as the *Dura Patet*,⁴ for example, give cycles of the months entirely without analogy with the later mediaeval iconography.

These Carolingian poems show that at least as early as the sixth century certain of the works of the months had already taken concrete form in a fixed tradition that continued unbroken until the end of the Middle Ages. In literary sources it is possible to trace the types of certain months, notably January and September, to even greater antiquity. In a poem of Ausonius,⁵ January is personified by Janus Bifrons, February by Numa, who sacrifices to the gods of hell (fire), with clasped hands, while September presses the vine. Similarly the *Hic Iani Mensis*,⁶ a work ascribed to the second century, or even to the Augustan period, speaks of January as sacred to Janus, June as naked and reaping the harvest, September as drying the grapes and ripening apples. The *Primus Iane tibi*⁷ also speaks of January as sacred to Janus, and April as the month of Venus and flowers, while October is characterized by the vintage.

From these poems it is clear that the Christian tradition of a cycle of the months, derived from classical and pagan models, early took definite form, and survived throughout the Dark Ages in literature, and hence probably also in painted decoration. There was considerable latitude in the precise manner of

¹ Ed. Baehrens, *M.G.H.*; *P.L.M.* V, 214.

² *Ibid.*

³ *Ibid.* IV, 290.

⁴ *Ibid.* I, XI, p. 205.

⁵ Ed. Schenkl, *M.G.H.*; *Auc. Antiq.* V², 10.

⁶ Ed. Baehrens, *M.G.H.*; *P.L.M.* I, XII, p. 206.

⁷ *Ibid.* XIII, p. 210.

representing certain of the months, while others were almost invariably given the same characteristics.

About the end of the eleventh century the cycle of the months came to assume great importance in both Oriental¹ and Occidental art. The earliest extant plastic representation of the months in Europe is the fragmentary mosaic of San Michele at Pavia. So little of this is left, however, that the mosaic at Piacenza assumes great importance as the earliest monument in the West, showing the fully developed Romanesque tradition. The months at Piacenza, while not, as we have seen, without analogies to the older cycles, especially in literature, still show certain details which are entirely new, and which were to persist throughout the Middle Ages. Thus, for example, May is shown as a youth who leads forth his horse. The same subject is found in, I believe, nearly all the plastic representations of the months of the twelfth and thirteenth centuries throughout Europe, but earlier than this there is no trace of it. We should be very glad to know whence the artist at Piacenza derived his inspiration for this scene and precisely what is the significance of it. At all events, the influence of such Lombard pavements as those of San Michele, San Savino and Reggio upon the development of Occidental iconography was very great. At Aosta there is a pavement showing the closest possible analogy to that of San Savino, except that there are introduced certain features showing a transition towards the type of representation familiar in French Gothic sculpture. Undoubtedly, the earliest plastic representations of the months in France were in the now destroyed pavements of the Église d'Ainay at Lyon and of Saint Remi at Reims. The mosaic of the months inlaid on the façade of Saint Denis, a fragment of which is still extant in the Musée de Cluny, is said to have been executed by an Italian artist. It is, therefore, entirely probable that the French Gothic sculptors and glass-painters took their inspiration for the cycles of the months from Italian mosaic pavements of the same subject, of which San Savino at Piacenza offers us the only well-preserved example extant.

¹ Josef Strzygowski, 'Die Monatscyclen byzantinischer Kunst.' (*Repertorium für Kunstwissenschaft*, XI, 1888, p. 32.)

The conviction that the French cycles were derived from Italian pavements and not from literary sources, is confirmed by a study of the latter. We have already seen that the French cycles approach the pavements much more closely than they do the preceding works in literature. On the other hand, contemporary and subsequent poems seem to have been inspired by the sculptures, rather than the sculptures inspired by them.

Before leaving the subject of the months, a word should be said of the symbolism which is read into the representations of them by Bonvesin della Riva.¹ February trims the vine, as the wise man cuts off sin by confession.² March trains the vine, sows the fields with flax and vegetables, just as whosoever wishes true joy should plant in youth the seeds of virtue that they may solace the rest of his life, etc. This poem, however, appears to be the mystic musing of a poet on sculptures already made and which he had seen, rather than an interpretation of the thought of the artists.

In the choir of San Savino, another mosaic quite as subtle as that of the crypt was discovered during the recent restorations.³ In the centre is represented a seated figure, draped and with beard, holding in his right hand a male head, the flames emanating from which show that it is the Sun, and in his left hand a female head, distinguished as the Moon by the crescent which is above it. The central figure is surrounded by two circles, between which are placed four pairs of animals facing each other. These animals, unfortunately, have been much damaged. Above there are two dogs, each with one paw raised; on either side a sort of griffin with wings faces another grotesque winged figure; below there appear to have been two horses. The outer disk is represented as being held up by a caryatid, and at the four corners are four figures with Phrygian caps, — the two above clinging to the outer circle, and apparently climbing up upon it, the lower two falling head first beneath it. The whole scene is inscribed in a quadrangle. Above is a procession of animals of different kinds, all very much damaged.

¹ Ed. Biadene, *Studii di Filologia Romanza*, Vol. IX, 1903, p. 54.

² Line 25.

³ Illustrated in *La Regia Basilica*, Fig. 11; *Piacenza Monumentale*, p. 44.

To the left of the quadrangle are two scenes. The upper, representing a combat between two warriors with shields and swords, doubtless stands for the virtue of Fortitude. The lower shows a man standing unsteadily, holding in his left hand a staff, in his right an overflowing goblet. Another figure, much damaged, stands beside him, while a third, intoxicated, sprawls on the ground. It must be we have here a representation of the virtue of Temperance, perhaps personified by the standing figure, who refuses to drink, while his companions indulge in excess. To the right of the central quadrangle a king, with the inscription REX, is seated on a throne and carries a sceptre. Before him kneels on one knee a figure reaching his left hand after a piece of parchment which bears the letters LE(X). The right-hand edge of the mosaic is destroyed, but perhaps contained the figure of a judge, since the letters IVD may still be read in the corner. The scene evidently typifies the virtue Justice, but I cannot interpret the exact meaning of the figures. In the space below is a fourth scene, depicting a man playing chess; probably his opponent was represented on the other side, but has been destroyed. The scene is symbolical of the virtue of Prudence. From the chronicle of Fra Salimbene¹ we know that chess was extremely popular in Lombardy in the thirteenth century, and was proverbial as a favorite pastime of astute men.

The meaning of the central figure within the quadrangle is not open to doubt. It is, as in the precisely similar pavement at Aosta, the Year, who holds in his hands the Sun and the Moon. Ever since the time of Boëthius,² the year with its changes and inconstancies has been taken as a symbol of the changeableness and inconstancy of human fortune. However, in this mosaic the year is doubtless also the figure of God. Says Sicardo³: "the year in general stands for Christ, whose members are the four seasons, that is the four Evangelists." The Sun which the Lord here holds in his hands is the mystic symbol of Christ, according to St. Ambrose⁴ and

¹ Ed. Parma, 1857, pp. 26, 51, 186, 217, 359.

² *Phil. Cons.* II, 2, 3, ed. Peiper, 27.

³ *Mitrale*, V, 7, ed. Migne, *Pat. Lat.* 213, 232.

⁴ *Hexaemeron*, IV, 8, ed. Migne, *Pat. Lat.* XIV, 217.

Origen.¹ Christ, who calls himself "the light of the world," was, according to the Evangelist,² the true light which lighteth every man that cometh into the world. Isaiah in his prophecy³ speaks of the Messiah as "a light to the Gentiles." Therefore, in the thought of the Church fathers, the material Sun, the source of light, became a mystic symbol of Christ. Moreover, the Moon, which reflects the glory of the Sun, became in their eyes an image of the Church, which reflects the glory of Christ;⁴ for the Moon, like the Church, seems to wane, but never passes away.⁵

The four figures at the corners of the disk are undoubtedly the four rivers of Paradise. In the mosaic of Aosta to which we have already referred are precisely similar figures, which are plainly labelled Pison, Gihon, Tigris (instead of the Hiddekel of our English Bible), and Euphrates.⁶ Now, in the thought of the Middle Ages, these rivers of Paradise were full of profound significance. St. Ambrose⁷ saw in the fountain of Paradise, whence the four streams derive their waters, the image of Christ, who said, "If any thirst, let him come to me and drink." The rivers themselves, which flowed from Christ, the central source, hid many mysteries. Sometimes they were interpreted as symbols of the four evangelists, as at Aosta; sometimes as figures of the four ages of the world, as in St. Ambrose. But a third interpretation, preferred by St. Ambrose, is that chosen by the artist of the Piacenza mosaic. Christ, the fountain of life and spiritual grace, is also the fountain of the virtues. Therefore, the four rivers of Paradise which flow from him are nothing but the image of the four cardinal virtues of Fortitude, Temperance, Justice, and Prudence. That is why in the mosaic of San Savino, beside the figures of the four rivers of Paradise surrounding Christ, the central fountain, are placed genre scenes, typical of the four virtues of which the rivers were symbolical.

¹ *Comment. in Joan.* Tomos I, 24, ed. Migne, *Pat. Grec.* XIV, 66.

² John i. 9.

³ Isaiah xlix. 6.

⁴ *Hexaameron*, *loc. cit.* See also Origen, *op. cit.* 637, ed. Migne, 298.

⁵ S. Ambrosii, *Hexaameron*, IV, 2, ed. Migne, *Pat. Lat.* XIV, 203.

⁶ E. Aubert, 'Les mosaïques de la cathédrale d' Aoste.' (*Annales archéologiques*, Tome XVII, 1857, p. 265.)

⁷ *Liber de Paradiso*, III f., ed. Migne, *Pat. Lat.* XIV, 296.

It may, indeed, cause surprise to see the virtues depicted in so unusual a manner. The personification of the virtues was a favorite subject with the artists and with the poets of the Middle Ages, but there is no extant monument, plastic or literary, analogous to these Piacenza figures. In Italian mosaics, such as the pavements at Cremona and Santa Maria del Popolo at Pavia, the virtues are depicted as engaged in active combat with the vices, and the artists usually followed very closely the text of Prudentius' *Psychomachia*. At Modena, indeed, there is a sculpture in which the combat between Faith and Heresy is symbolized by Jacob wrestling with the angel.¹ Similarly, in the pavement of Santa Maria Maggiore at Vercelli, the strife of Temperance and Intemperance is represented by the history of Judith and Holofernes.² This is clear from a text of St. Ambrose,³ which has hitherto escaped the attention of those who have sought to interpret this mosaic. In Northern France, especially in the Gothic period, the vices are regularly represented by genre scenes derived, probably in the main, from folk-stories or fabliaux, though their sources have not yet been discovered. The corresponding virtues, however, are always personified as female figures with certain established attributes derived, for the most part, from Prudentius. There is, therefore, no other instance in Italy or France where the virtues are typified, as at San Savino, by genre scenes. Nor have I been able to discover any literary sources which explain the figures of the Piacenza mosaic. It is, none the less, certain that there was current in Lombardy, in the twelfth century, a large number of folk-stories and fabliaux which have entirely perished, and of which the historians of literature have not even suspected the existence. A proof of this is to be found in the

¹ This relief has been studied, but strangely misinterpreted by Federico Patetta ('Di una scultura e di due iscrizioni inedite nella facciata meridionale del duomo di Modena,' *Memorie della Regia Accademia di Scienze, Lettere ed Arti in Modena*, Serie III, Vol. VII, 1908, Sezione di arti, p. 3). The figures are all supplied with inscriptions, and the symbolism becomes perfectly evident in the light of a passage of St. Augustine (*In Heptateuchum*, Liber 1, 104, ed. Migne, *Pat. Lat.* 34, 574).

² Julien Durand, 'Pavé mosaïque de Vercell' (*Annales archéologiques*, Tome XX, 1860, p. 57).

³ *Liber de Elia et Jejunio*, IX, ed. Migne, *Pat. Lat.* 14, 741.

sculptures of the portal of the north side of the cathedral of Modena, where we find represented scenes from the Arthurian legends and the Cock and Fox story, a century before either is supposed to have entered Italy. In these instances, it is true, we are able to interpret the sculptures more or less exactly, by the aid of much later versions of the stories, which are extant. The virtues of Piacenza were, in all probability, derived from similar fabliaux, which have either perished entirely, or else, up to the present, escaped discovery.

In the north side aisle at Piacenza there is preserved another altogether remarkable fragment of the mosaic pavement repre-



FIGURE 11. — MOSAIC IN EASTERN BAY OF NORTHERN SIDE AISLE.

senting two dogs facing each other, whose necks are encircled by a single collar (Fig. 11). Their tails, passing between their hind legs, are held in their mouths. Below is the cryptic and fragmentary inscription:

....MEVM E TOT (MAL) PESSIME TVFVR....¹

¹ Other letters were visible at the time of the restoration, and it is evident the inscription was a long one and continued at the sides of the mosaic. Tononi (*La Regia Basilica*, 48-49) was, however, unable to read them, and they have now disappeared. Only the letters MAL of his transcription appear to make sense, and these, consequently, I have restored.

The word "TVFVR" is, so far as I know, without meaning, and I can only conjecture that some ignorant restorer, perhaps of the sixteenth century, being unable to read the damaged original, has substituted this for some other word, possibly "TVEOR."¹ Since the artist of the mosaic frequently derived his inspiration from the *Hexaemeron* of St. Ambrose, as we have seen, it may be, that in executing these figures of the dogs, he had in mind a passage of the same work.² The Saint, speaking of the creation of animals, comes to dogs. He mentions faithfulness as their characteristic, but goes on to cite a passage of Isaiah:³ "His watchmen are blind; they are all ignorant; they are all dumb dogs; they cannot bark, sleeping, lying down loving to slumber." Therefore the Saint observes, there are two kinds of dogs: those who know how to bark in behalf of their masters and know how to defend his house, and those who by sloth are silent and neglect their charge. The careless Christian resembles the latter, for when raging wolves invade the sheepfold of the Church, he, by failure to cry out, betrays the trust which has been committed to him.

Can it be that the artist of the Piacenza mosaic has sought to express the silence of the dogs by stopping their mouths with their tails?

In the middle of the seventeenth century there was still to be seen in the church a fourth mosaic which has since disappeared, but which Campi has described as follows: "vn laberinto con dentro il Minotauro, e sotto il laberinto verso la porta del Tempio vi fece porre questi quattro versi, che saggiamenti ci auuisano, benchè con rozo stile, caratteri al costume antico, di sapersi guardare dai vitij, e dall' intricato viuere del Mondo per essere poscia molto malageuole al' l' huomo lo sbrugharsene."

HVNC MVNDVM TIPICE LABERINTHVS DENOTAT ISTE
INTRANTI LARGVS, REDEVNTI SETNIMIS(=sed nimis) ARTVS
SIC MVNDO CAPTVS, VICIORVM MOLE GRAVATVS
VIX VALET AD VITE DOCTRINAM QVISQVE REDIRE ⁴

¹ Many similar changes were wrought in the inscriptions by the restorers of the mosaic pavement of the cathedral of Novara.

² VII, 6, 17, ed. Migne, *Pat. Lat.* 14, 263.

³ Isaiah lvi. 10.

⁴ *Loc. cit.*

It may, indeed, cause some surprise that so pagan a subject as the representation of the labyrinth and minotaur should have been chosen for the pavement of a Christian church. The labyrinth, however, doubtless borrowed from pagan antiquity, — it is depicted on two ancient pavements of Switzerland, described by Otto Jahn,¹ — was not uncommon in church pavements of the Middle Ages. One doubtless quite similar to that of San Savino, in the choir of San Michele at Pavia, has been described by Ciampini,² and it will be recalled that in the cathedrals of Northern France, such as Amiens and Reims, the pavement was regularly adorned with a labyrinth. The symbolism of such designs is happily made clear by the inscription of San Savino, preserved by Campi.

In addition to the mosaic of the labyrinth, Campi has recorded the existence of another monument at San Savino, which is no longer extant: “Sopra di esso poi verso l’ Altar maggiore venne figurata vna meza statua di huomo (che sembra si nomasse Giovan Filippo, e forse fù il mastro di tal opera) con vn coltello in mano, e sotto di lui il seguente epitafio:

IOHS PHIPVS SV MEDIETATIS AMICVS³
HOC FECIT PRESENS CELESTIA PREMIA QVERENS”

On the strength of this passage it is stated in most of the guide-books that Giovanni Filippo was the artist who executed the mosaics. This, however, cannot be. Campi must have been mistaken when he understood the inscription to refer to the mosaic, although his notice is so meagre that it is impossible to say exactly what was meant by the *hoc* which Giovanni Filippo made. At all events, certain it is that Giovanni Filippo could not have been an artist of the twelfth century, since the name savors of a much later epoch.

The church of San Savino is in the main a homogeneous and exceedingly well-preserved monument of 1107. From 903 date two capitals in the crypt. The remains of the earlier apse and

¹ *Archäologische Beiträge*, Berlin, Reimer, 1847. 12mo, p. 271.

² Giovanni Ciampini, *Vetera monumenta*, Roma, Komarek und Bernabò, 1690-1699. 2 vols. 4to. Vol. II, 2, p. 4.

³ *Iohannes Philipus summae pietatis amicus.*

the campanile are certainly older than the present church, and in all probability belong to the edifice of 1005.

In the history of Lombard architecture San Savino, thus an authentically dated monument of 1107, is of immense importance, since it enables us by comparison to establish the dates of many other edifices. The chronology of the Lombard style during the first half of the eleventh century has now been fairly well established. Beginning with San Vincenzo of Galliano, consecrated in 1007, and ending with Sannazzaro Sesia, begun in 1040, there is extant an admirable series of monuments, many authentically dated, which fully illustrate the growth and development of the style. There is, how-



FIGURE 12. — GENERAL VIEW OF INTERIOR OF
SAN SAVINO.

ever, a great lack of dated monuments of the second half of the eleventh century. Hitherto we have had only Santo Stefano and San Nazaro of Milan, both begun in 1075, and the Chiesa d'Aurona of the same city, begun in 1099, to enable us to fix the chronology. But it was by no means certain that these edifices, although begun at the stated dates, might not have been finished long afterwards, and to find an authentically dated consecration it has been necessary to go into the second quarter of the twelfth century to San Giorgio in Palazzo at Milan (1029) and to San Pietro in Ciel d'Oro at Pavia (1132). Now San Savino at Piacenza, consecrated in 1107, shows a style far less

advanced than that of San Giorgio or of San Pietro, on the one hand, and far more advanced than that of Santo Stefano and San Nazaro, on the other, while it is strikingly similar to that of the Chiesa d' Auroa. It is therefore certain that Santo Stefano and San Nazaro actually were erected immediately after 1075, and the Chiesa d' Auroa immediately after 1099. Sant' Ambrogio at Milan, some parts of which are earlier in style than Santo Stefano and San Nazaro, must have been begun earlier



FIGURE 13.—ENTRANCE TO CRYPT OF SAN SAVINO.

than 1075. Moreover, even the atrium of Sant' Ambrogio, which is later than the main body of the church, is earlier in style than San Savino. We may therefore conclude that Sant' Ambrogio, with the exception of the new campanile, was entirely finished during the eleventh century. Furthermore, the style of San Michele at Pavia evidently falls between that of Santo Stefano and San Nazaro of Milan and that of San Savino at Piacenza. We must therefore conclude that San Michele at Pavia was erected between 1075 and 1107.

It is indeed true that there were in Lombardy about the beginning of the twelfth century two distinct schools of architecture, having little relationship with each other. The one,

which centred probably at Milan, is formed of the edifices which we have just named and of many others of similar design. It is characterized primarily by the use of vaults and grotesque ornament. It reached its full development about the middle of the eleventh century, and did not entirely pass away at Pavia until the third quarter of the twelfth century.

Contemporaneously there flourished another school which, I suspect, may have originated in the region about Como, and which eventually supplanted the first school. The earliest dated monument we have of this second school is the cathedral of Modena, begun in 1099, consecrated in 1106, but not finished until long afterwards. This second school is characterized by wooden roofs supported on transverse arches, by a much more refined and restrained system of ornament, and by the frequent use of figured sculptures. Its most conspicuous monuments are, in addition to the cathedral of Modena, San Fidele at Como, Santa Maria Maggiore at Bergamo, the cathedrals of Piacenza, Ferrara, and Verona, and San Zeno at the latter city. San Savino at Piacenza, which is contemporary with the earliest parts of the cathedral of Modena, proves that the second school was coexistent with, and not a successor to, the first. It moreover proves that it is impossible to distinguish the two schools geographically, since in the same city of Piacenza we have San Savino, an important monument of the first school, consecrated in 1107, while the cathedral, an equally important monument of the second school, was begun only a few years later (1122).

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NEW YORK.

DISCOVERY OF SOME NEW PETROGLYPHS NEAR CAICARA ON THE ORINOCO

IN the winter of 1908 and 1909, while surveying geographically and geologically the region about Caicara on the Orinoco, a region that was very little known up to that time, I discovered on the banks of the Orinoco, as well as in the forest that separates the river from the plains of the savana, some new petroglyphs. They apparently belong, not only geographically but also genetically, to the same large group of petroglyphs which is scattered over a wide area in Venezuela. This area is bounded by the Orinoco, the Atabapo, the Rio Negro, and the Cassiquiare. Whatever we know about the distribution of these petroglyphs, we owe in the main to men like Alexander von Humboldt, Robert and Richard Schomburgk, Koch-Gruenberg, Im Thurn, Charles Brown, J. Chaffanjon, Alfredo de Carvalho, and others.

Alexander von Humboldt mentions in his *Reise in die Aequatorial-Gegenden des neuen Continents* two petroglyphs from the region of Caicara, viz. "el sol" and "la luna," of which I, however, saw only one, "el sol," while I never succeeded in finding the other. Although Humboldt is the proper discoverer of "el sol," he never described this unique and most beautiful petroglyph. The figure is deeply carved in a comparatively hard granite rock that rises about four feet above the ground and is entirely hidden from view by dense undergrowth. It is quite a complicated figure, so far as its design is concerned. So far as I am aware, "el sol" and "la luna" were the only two petroglyphs which were known to archaeologists and ethnologists as being from this specific region, at the time that I arrived in Venezuela. The other petroglyphs which I found have never been mentioned nor described either by

Humboldt or by any other traveller who touched that point, and apparently were not known to any one of them.

We may distinguish between three more or less distinct types of these new petroglyphs, so far as degree of workmanship as well as other points of view are concerned. There is one type that apparently represents one of the initial stages of this early art of petroglyphy; there is another type that shows this art in a more advanced stage, and there is a third type that evidently represents the most advanced stage in the development, as these figures are the most complicated and required



FIGURE 1.—PETROGLYPH, FIRST TYPE.

the greatest skill to execute them. While the figures belonging to the first two types were found near the bank of the Orinoco on the Caicara side, or directly on the bank in the gneiss rocks that are exposed there, the figures of the last type were met with farther away from the river, in the dense river forest, as has been mentioned before. It must, however, not be understood that the various figures belonging to each type occur more or less closely together, for this is not the case. They are, on the contrary, widely scattered along the bank and through the forest.

The first type (Figs. 1, 2) comprises designs of the simplest kind, although they may not be as simple as others of which I have seen reproductions. These fairly geometrical circles, one

in the other, the centre of the innermost one being hollowed out, are from two to four feet in diameter, while the grooves are from two to one and a half inches wide and comparatively shallow. This shallowness, however, is, in my opinion, rather

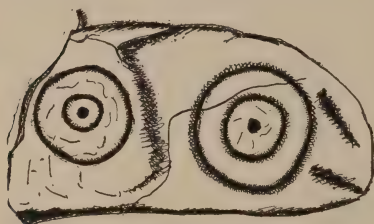


FIGURE 2.—PETROGLYPH, FIRST TYPE.

due to weathering which must have continued for a long time, and I therefore believe that these grooves were originally considerably deeper than they are now. If we knew their original depth or if we could form an idea as to what this depth may have been, and if

we could ascertain the approximate rate of weathering of the granite and gneiss rocks in that climate, we should be able to arrive at an approximate estimate of the time that must have elapsed since these petroglyphs were produced.

Of the second type I found only one figure. I could not secure a photograph of it, as I did not happen to have my camera along when I discovered it. The reproduction in the text (Fig. 3) is from a copy in my field book. It is somewhat more complicated than the figures of the first type. It is nearly four feet long and three feet wide, and while the grooves are of about the same width as those of the circles, they seem to be somewhat deeper.



FIGURE 3.—PETROGLYPH, SECOND TYPE.

To the third type belongs one that was known, when I came to Caicara, viz. "el sol," and one that was not known, "el tigre" (Fig. 4). The latter is, next to "el sol," the most complicated and most elaborate figure in the neighborhood of Caicara. Its true dimensions may readily be estimated from the size of the two boys, typical Venezuelan boys, who assisted me in botanizing and other collecting. The grooves in this petroglyph are somewhat narrower and at the same time somewhat more distinct than those in the figures of the two other types. Nevertheless, they were also so much worn that they had to be chalked with some near-by "laterite" clay in order to bring them out better for the camera.

So far as the origin of these new petroglyphs as well as the origin of the already known stone-carvings is concerned, which belong to that large geographic and genetic group of petroglyphs alluded to in the beginning of this paper, we learn that the Indian tribes of to-day which inhabit those regions have no answer to the question : Who made those unique and mysterious figures? No message concerning these carvings has come to them through tradition. Was it a people like that of the Incas, strong and mighty, of comparatively high culture and advanced thought? Whence came it and by what catastrophe was it swept



FIGURE 4.—PETROGLYPH, THIRD TYPE, "EL TIGRE."

from the face of the earth? We do not know. At any rate, however, we may be safe to say, that the people which produced those petroglyphs must have been further advanced in certain respects than the tribes that occupied these regions after them. For among none of the Indian tribes now living in Venezuela do we find this art developed and cultivated. It is a thing of the past.

There are certain similarities between these petroglyphs and some others found in Africa, and more especially in Nubia and Abyssinia, and there are resemblances between the Venezuelan stone carvings and others that have been discovered in the northern part of Asia, but it would be too bold an undertaking to advance on the basis of these mere resemblances any

theories as to the possible or probable movements of that prehistoric people that once inhabited the primeval forests of Venezuela and the banks of the Orinoco. These resemblances might just as well be interpreted as a case of parallel, independent development of this early art of petroglyphy under similar conditions.

A natural question is : What do these carvings mean ? While some authorities, among them Humboldt, consider them merely as records of pastime and leisure, of the cultivating of this art of stone carving, others are inclined to ascribe to them a deeper meaning and to regard them as symbols of a religious nature and objects of worship, while there are still others who hold the view that at least some of these stone carvings may represent records of an historic character.

So far as my own view with regard to the real significance of the petroglyphs of Venezuela in general and the newly discovered petroglyphs especially is concerned, a view that is based on extensive studies in fetichism, I venture to say that those of the two more simple types seem to be records of fetichism in the earlier stages of its development; while the third type of petroglyphs, including "el sol" and "el tigre," may be interpreted as recording the attempts at rude sculpturing of images of well-known objects of nature, like the sun and the jaguar, I am inclined to regard these carvings also as records of fetichism, and more especially of later fetichism, when the practice was developed of placing images of certain undesirable elements at certain spots in order to scare them away and ward them off. Thus the jaguar always has been, as it is now, to the Indian tribes of these regions, a most undesirable element, a terror, and in my opinion the carving of the image of the jaguar in the hard rock was meant to create a fetich that might scare away that most dreaded enemy. So it is with the sun. The sun is for the Venezuelan Indian a most undesirable element, especially in the dry season, when, on account of the increasing dryness, his game on which he has to rely for his subsistence becomes scarce. Thus the image of the sun, carved in the solid rock in the dense shady forest, might have served a similar purpose; namely, that of a fetich to shorten the dry season or to at least facilitate occasional showers.

Only he who has actually travelled in those regions during the dry season, that practically lasts half a year, and only he who has actually experienced its grewsome hardships, will be able to conceive fully the significance of this latter interpretation. At the same time there is no doubt that these last-mentioned petroglyphs indirectly served as a means to develop and to cultivate the art of sculpture in its initial stages.

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THE "ROMAN BOWL FROM BAGDAD"

THE following communication has been received from Professor Olmstead, of the University of Missouri:

July 30, 1912.

MY DEAR PROFESSOR FOWLER:

I am sending you an extract from a letter just received from the R. P. Ronzevalle of the University of St. Joseph in Berut. The standing of its author and the answer he gives, at least in part, to the question as to the origin of the "Bagdad bowl," make it a valuable addition to the discussion of that forgery.

Yours truly,

A. T. OLMSTEAD.

Extract:

Je me permets de vous présenter mes félicitations pour votre récent article sur le "Bowl" de Bagdad (!). Je connaissais déjà depuis longtemps ce faux grossier, que j'aurai dû signaler, si j'avais pu penser un instant que des archéologues européens ou américains s'y laisseraient prendre. Damas est un centre de fabrication lapidaire, comme Homs, de fabrication monétaire, Sidon, de céramique, et Tyr, de glyptique. J'ai arrêté dans le temps M.***, qui allait publier toute une série de bustes "hauraniens," y compris le bas-relief dont je vous adresse ci-inclus une photographie, bas-relief qui, vous le verrez sans peine, a fourni le modèle d'Esculape et Hygie du "Bowl."



FIGURE 1. — A FORGED RELIEF.

Je compte publier un jour une série de ces faux, en y comprenant le bas-relief en question. La fabrication se continue avec activité,

et bientôt les musées américains (surtout) en seront inondés, si leur directeurs n'y prennent garde. Vous feriez peut-être bien de leur ouvrir les yeux en publiant à ce sujet une petite note dans l'*American Journal of Archaeology*. Dans ce cas, je vous autoriserai volontiers à faire reproduire la photographie ci-incluse, qui peut permettre une comparaison utile avec les figures correspondantes du "Bowl." Je vous prierais seulement d'indiquer la provenance de la photographie et de dire que je compte revenir sur le sujet. J'y ai d'ailleurs déjà fait allusion dans les *Comptes rendus de l'Académie des Inscriptions* de Paris, 1907, p. 232. "Le savant voyageur [Le R. P. Ronzevalle] fait remarquer que Damas est devenue un centre très important pour le commerce des antiquités rassemblées de toute la Palmyrène et du Hauran, et malheureusement aussi un atelier actif de faux. Par exemple, il signale des inscriptions grecques, tracées par une main moderne, sur des bustes funéraires et sur un relief représentant Esculape et Hygie."

THE MNESIMACHUS INSCRIPTION AT SARDES

THE first number of this JOURNAL for the current year contains the admirable publication by Mr. Buckler and Professor Robinson of an inscription which constitutes, at least from some points of view, the most important and most interesting contribution to knowledge made thus far by the excavations at Sardes. It is with the fullest appreciation of the carefulness and thoroughness of this publication that I wish to present a discussion of certain conclusions of the editors with regard to this valuable document, and to add certain suggestions of my own derived from a study of the document itself.

The editors regard this document as a deed of sale subject to redemption (*πρᾶσις ἐπὶ λύσει*). And I believe that this opinion is correct,¹ although those parts of the inscription which would decide this question conclusively have been erased. The words *μηκέτι ἀπολύσασθαι* in Col. II, 2 imply, though not certainly, as the editors state, that a period within which the property *might* be redeemed was provided in the lost part of this column. Moreover, the words in II, 5: *εἰς τὰ Ἀρτέμιδος ἐχέτωσαν* (i.e. *ἐάν τις ἐμποιῇται κτλ.*) seem to imply that even that limited ownership of the property enjoyed by Mnesimachus was not conveyed outright by this instrument. It appears then that this is not an absolute conveyance of title. On the other hand, Col. II shows that the temple of Artemis is granted by this document possession of the property, and the right to build upon it, to plant vines or trees, and to profit by the crops, the increase of the cattle, and the labor of the slaves or serfs attached to the property. Possession of this sort of course would not constitute ownership of the property; but even possession would not be conferred by an ordinary mortgage deed, without foreclosure or some sort of legal process.

¹ So also Larfeld in *Wochenschr. f. klass. Philol.* 1912, Sp. 998.

In my opinion, however, the editors are in error in their interpretation of the latter part of Col. I, namely, lines 11–18. Column I, from the words *ἔστι οὖν*, at the end of line 3, to the end of the extant document, line 18, contains a description of the property in which Mnesimachus had certain rights conveyed by him to the temple of Artemis, under certain restrictions, partly as security for a debt, and partly in lieu of interest on this debt until it should be paid. As the editors have observed, “Mnesimachus is not absolute owner of all the lands enumerated, for in II, 13 it is stated that the king can take them away from the temple *διὰ Μνησίμαχον*, i.e. by taking them away from Mnesimachus” (p. 52). In I, 11–18 mention is made of a certain “farmstead or *αὐλή*, outside which were certain peasants’ houses, plots of land, and slaves, enumerated by name” (p. 20). With regard to these properties the editors make the following statement: “This farmstead may perhaps, as belonging to those two men” (Pytheus and Adrastus), “be excepted from the present conveyance, but we believe that before this date it had passed into the ownership of Mnesimachus, through some dealings described in the lost beginning of this column” (p. 20).¹ The reason given by the editors for their belief is that “the *χωρία* and *οἰκέται* of II, 5, which are among the things granted” (by this document to Artemis) “refer to the items of I, 15–18, just as the *κῶμαι* and *κλήροι* of II, 5 refer to the items of I, 4–10” (p. 20 note). But that the *κῶμαι* and *κλήροι* of I, 5–10 include *χωρία* and the *οἰκέται* in or upon them, is proved by I, 11 f.: *ἐκ πασῶν οὖν τῶν κωμῶν καὶ ἐκ τῶν κλήρων καὶ τῶν οἰκοπέδων προσκυρόντων καὶ τῶν λαῶν πανοικίων σὺν τοῖς ὑπάρχουσιν κτλ.* It seems to me certain, therefore, that the properties mentioned in I, 14–18 are excepted from those in which Mnesimachus hereby cedes his rights to the temple of Artemis, because, before the execution of this document, these had been awarded to Pytheus and Adrastus. Formerly Mnesimachus had rights in the properties described in I, 4–10, and those in 14–18, and more besides (*καὶ χωρὶς τούτων ἔτι πλέον*, I, 13). Now Mnesimachus cedes to Artemis whatever rights he has in

¹ Larfeld, l.c., considers that the farmstead did belong to Pytheus and Adrastus, while the houses, etc., outside of this (ll. 14–18) were in the unrestricted possession of Mnesimachus.

the properties described in Col. I, excepting those mentioned in lines 14-18, the farmstead at Tobalmoura, houses of serfs and slaves, gardens at Tobalmoura, and dwelling-plots and gardens at Periasasostra. For this reason no *φόρος* is mentioned in connection with these latter items, because the *φόρος* from these was no concern either of Mnesimachus or of Artemis, and not because they belonged to Mnesimachus outright. The other items, mentioned in I, 4-10, are ceded to Artemis with the reservations that they are subject to certain fixed charges, doubtless payable to the king, and that the king may at any time cancel the title and recall the property. This second reservation, of course, did not need to be stated in this part of the document.

In another point I find myself in disagreement with the editors, namely, the interpretation of the last clause of the final sentence. This clause and its immediate context is as follows: *μέχρι δὲ ὅσον μὴ ἀποδῶμεν ἔστω ἐν ἐμοὶ ἐν παρα(κα)-ταθήκῃ καὶ ἐν τοῖς ἐμοῖς ἐκγόνοις ἕως ἂν ἅπαν ἀποδῶμεν εἰς τὰ Ἀρτέμιδος καὶ ἡ πράξις τέως ἂν ἐξ ἡμῶν μὴπω γένηται ἐξείναι.* Inserting a colon after the word *Ἀρτέμιδος*, the editors have translated the passage: "*And so long as we shall not have paid, the debt shall constitute a deposit-loan owing by me and my heirs until we shall have paid the whole to the treasury of Artemis; and so long as this still remains unpaid by us execution shall be lawful.*" All of Column II deals with the contingency that, through failure on the part of Mnesimachus or his heirs to defend the title, or by reversion to the crown, these lands may be lost both to Mnesimachus and to the temple of Artemis. It seems to me clear, however, that the infinitive *ἐξείναι* does not stand alone, as so often in resolutions and decrees; in such cases some such word as *ἔδοξε* is always readily supplied if not actually present. Here there is no suggestion of such a construction; always what is to be done is stated in the future indicative or in the imperative: "*we will make good the title . . . if not, let them pertain to Artemis,*" etc., and even the *ἀπολύσασθαι* of II, 2 must depend upon the *ἐξέστω*, which the editors have restored in the text, or on some similar verb, as is proved by the datives *ἐμοὶ* and *μηθενί*. The same is true in similar contracts and agreements. Consequently I believe that

ἐξεῖναι must depend upon γένηται, and that there should be no colon after Ἀρτέμιδος. At least the *impersonal* use of γίγνεται with a dependent infinitive is found in Classical Greek (*e.g.* Xen. *Cyr.* 5, 2, 12; cf. *Hel.* 5, 3, 10), and is frequent in post-Classical times, *e.g.* Acts xxii, 6: ἐγένετο δέ μοι . . . περιαστράψαι φῶς, and xxii, 17: ἐγένετο δέ μοι . . . γενέσθαι με ἐν ἐκστάσει.

The meaning of πρᾶξις is made clear by the passage in Demosthenes, XXXV, 12, to which the editors refer on p. 17: καὶ ἐάν τι ἐλλείπη τοῦ ἀργυρίου, οὐ δὲ γενέσθαι τοῖς δανείσασι κατὰ τὴν συγγραφὴν παρὰ Ἀρτέμωνος καὶ Ἀπολλοδώρου, ἔστω ἡ πρᾶξις τοῖς δανείσασι καὶ ἐκ τῶν τούτων ἀπάντων, καὶ ἐγγείων καὶ ναυτικῶν, πανταχοῦ ὅπου ἂν ᾧσι, καθάπερ δίκην ὠφληκῶτων καὶ ὑπερμερῶν ὄντων: "*If there is any deficiency (after the sale of certain goods mentioned) in the money owed to the creditors according to the contract (Androkles and Nau-sikrates) by Artemon and Apollodorus, let the creditors' right of execution be upon all the property of these persons (Artemon and Apollodorus), lands or merchandise, wherever they may be, just as if these persons had lost in a suit at law and were in default of payment.*" Though this contract quoted by Demosthenes is, as the editors say, of doubtful authenticity, this use of the word πρᾶξις is confirmed by inscriptions. Dittenberger, *Sylloge*² II, 517, lines 11 ff., from Amorgos and dating from the second century B.C., contains the words: ἐὰν δὲ μὴ ἀποδῶσιμ, πρακτοὶ ἔστωμ Πραξικλεῖ οἱ μὴ ἀποδόντες ἡμισίλιον τὸ ἀργύριον ἐκ τῶν ἰδίων πράξει πάσῃ, καθάπερ ἐγ δίκης τέλος ἐχούσης κατὰ τὸ σύμβολον τὸ Ναξ[ίων κ]αὶ Ἀρκεσινέων. See also Dittenberger, *O. G. I. S.* II, 669, line 16, from Egypt, 68 A.D.: ἵνα αἱ πράξεις τῶν δανείων ἐκ τῶν ὑπαρχόντων ᾧσι καὶ μὴ(ι) ἐκ τῶν σωματίων. Compare also the "Testament of Epicteta," from Thera, dated about 200 B.C., in *I. G.* XII, III, no. 330, lines 172-177. Consequently I believe that the πρᾶξις ἐξ ἡμῶν of the Sardes inscription stands for πρᾶξις ἐκ τῶν ἡμῖν ὑπαρχόντων, and that we should translate as follows: *And so far as we do not pay let it be (a liability) upon me in the character of a loan, and upon my descendants, until we pay all to the treasury of Artemis and so long as execution upon our property may not yet become possible.*

This conviction leads me also to question the conclusions of the editors on p. 60 f. with regard to the word *παρακαταθήκη*. This word occurs in the inscription three times, namely, in Col. II, lines 11, 13, and 18; it has also been restored by the editors in I, 3, where the extant text reads τὸ χρυσίον τῆς [10 or 11 letters]ης τὸ τῆς Ἀρτέμιδος. The restoration of [παρακαταθηκ]ης is certainly plausible, and, if correct, shows that before the date of the present document a *παρακαταθήκη*, or loan of some sort, had been made by the temple of Artemis, and that at the date of the present document its return had been demanded of Mnesimachus. But neither in this place nor in Col. II, 11, 13, or 18 is anything said about the nature of a *παρακαταθήκη* in general, or about the terms of this loan in particular. Consequently I do not believe with the editors that this document establishes the three points which they mention:

(1) That "a deposit loan was then, as in later times, repayable on demand." Nothing in the present document shows whether the original loan was payable on demand, or whether its prescribed term had expired. At a certain time demand was made for money due. The amount appears from II, 13 f. to have been 1325 gold staters, and this amount is the basis of this new contract.

(2) That "*παρακαταθήκη* was in use at this period for the lending of money at interest, since there can be no doubt that Mnesimachus paid interest on his original deposit-loan. This may be inferred from the mention of principal (*ἀρχαῖον* II, 13), which implies interest (*τόκος*) as its accompaniment . . . as well as from the stipulations in II, 8-10, 16-18, designed to protect the goddess from loss of the annual income on her investment." But in the first place, the *ἀρχαῖον* of II, 13 does not signify the principal as contrasted with interest, but only the original sum, 1325 gold staters, as distinguished from the 2650 gold staters, which, under certain circumstances, Mnesimachus may be obliged to pay. Secondly, the stipulations in II, 8-10 and 16-18 have nothing to do with the previous contract, supposedly on the basis of a *παρακαταθήκη*. I do not suppose that the temple of Artemis ever lent money without a profit of some sort. But we cannot learn here what that profit was under the original agreement. The present agreement provides for a

profit to the temple only from the income of the properties hereby ceded to the temple, at least temporarily, by Mnesimachus, as the editors themselves recognize. This is of the very essence of a "sale subject to redemption." The income from the property belonged to the creditor who was formally the purchaser, and provided for him a return from his investment in lieu of interest: if the borrower, by special arrangement, as sometimes happened, retained possession, he did so by paying to his creditor rent, which was doubtless equal in amount to the interest which would normally be charged on the money borrowed, but which none the less was formally rent for the use of property no longer belonging to him. See Büchsen-schütz, *Besitz und Erwerb*, p. 493. In all the document before us there is no allusion to interest either on a παρακαταθήκη or on any sum whatever.

(3) That "the contract of παρακαταθήκη must at this period have been equipped with the same penalty for non-payment as in the first and second centuries A.D., when the papyri show that the defaulting debtor was liable for twice the amount of the original loan." It is not impossible that this was the case; but there is no evidence, direct or indirect, with regard to this matter in the present document. The penalty mentioned in II, 7 and 8 is expressly for failure of warranty on the part of Mnesimachus or his heirs, or for any breach of this contract on their part. What the law was at this time in Sardes, with regard to a παρακαταθήκη, does not appear. Lines 11, 13, and 18 of Column II state merely that any arrears in the payments to which Mnesimachus and his heirs are bound, in case these properties are lost to the temple of Artemis, shall be regarded as a παρακαταθήκη, whatever that may be, and shall be subject to the laws governing loans of that sort.

Finally there is a question, not discussed by the editors, which seemed to me of greater interest than any of those matters mentioned above, the question why a large part of this inscription was erased. In April of this year, when this article was first written, I believed that this document had been cancelled by this erasure, and for the reason that Mnesimachus had paid his debt. The editors state on p. 12 that the first part of each column has been "effaced by careful chiselling,"

and this statement can easily be verified by an examination of the photographs of the stone itself, admirably reproduced in plates I and II of their publication. The amount of the inscription thus expunged is estimated by the editors on p. 22 as "scarcely more than ten lines," or about one third of the whole. By comparing a mortgage contained in a "papyrus text from Hermoupolis (153 A.D.)," the editors have shown, almost to a certainty, what the erased portions of the Sardes inscription originally contained. The missing part of Column I must have contained "(A) the date and names of the parties, Mnesimachus as grantor and the goddess Artemis as grantee; (B) a statement, of which the end only has survived in lines 1-3, as to the particulars of the loan of 1325 gold staters and as to Mnesimachus' ownership of the estate (*oikos*) conveyed. This statement must have recited (1) the making of the deposit-loan by the goddess; (2) when and how Mnesimachus had acquired the estate" (p. 19). The missing part of Column II "contained the end of the description of the property (C)." "Then must have followed (D) the granting clause, by which all the items described were conveyed to the goddess, in consideration of the 1325 gold staters previously advanced by her, with the proviso that Mnesimachus and his heirs might redeem within a fixed time, after which neither they nor any one else should have the right of redemption. The end of this proviso survives in II, 2" (p. 20).

But without these missing portions, and in particular without (A) the date and names of the parties and (D) the granting clause, the whole document is invalid. Without them there is no deed here and no contract. If there is no deed and no contract, then the penalties for failure of warranty or for breach of contract have no force. Nor could the temple enforce its claim upon Mnesimachus for reimbursement either for improvements made upon the land, or for crops sown but not reaped, since these claims were good only if the property was taken from the temple by other claimants or by the king: if the property is not granted to the temple, it cannot be taken from the temple, and Mnesimachus is under no liability whatsoever, so far as can be shown by this document in its present condition.

In support of my opinion I collected examples of mortgage

stelae on which the inscription had been erased, evidently because the creditor had been satisfied, while the stone itself remained intact: also other examples of inscriptions in which erasures have been found. In some of these examples the whole document has been erased, although the text can still be read in spite of the erasure, or the character of the inscription discovered in some other way. In others a part of the document has been expunged while the rest has remained in force. In others again, only the part which made the document as a whole valid and binding has been removed, the rest, now invalid, remaining untouched. I believed that the Mnesimachus inscription belonged to this last class, and suggested that the rest of this long document was left upon the temple wall to show what kind of business the temple did and on what scale; in other words, as a kind of advertisement.

This idea, which may have occurred to others, has been shown to be incorrect by later information which the excavators have very kindly placed at my disposal. Mr. Buckler informs me that his statement on p. 12 of the original account of this inscription, "On three sides of this block all remains of the wall have disappeared," is incorrect; on the east side the block is not bare, but is in contact with another, 1.10 m. long and of equal height with the inscribed block. Both blocks belong to the north wall of the "opisthodomus," the second extending to the northeast corner of this apartment, adjoining the cella. The second stone is chiselled in the same way down to the same level as the block which bears the inscription. Moreover, the east end of the inscribed block, beyond the right end of the inscription, shows the same chiselling. The black space at the right of the inscription in PLATE II, which I supposed to indicate the end of the block, is the heavy shadow cast by a strip of iron leaning against the stone. No other block, however, besides these two, was found, belonging to this course in this part of the building.

It appears, therefore, as stated by the editors of the inscription in the note below,¹ that at some late time a large part of the tem-

¹ This wall has remained intact as far up as the block bearing our inscription, but all remains of masonry have disappeared above, behind, and at the west end of this block. Its east end is in contact — the point being extremely fine —

ple was converted into a reservoir. The floor of the "opisthodomus" was some feet below the level of the floor of the cella proper. When the reservoir was made, the wall between the two parts of the building was removed, and the opisthodomus was filled up to the level of the cella. This filling, the floor of the cella, and the walls were then coated with water-tight cement. The bottom of the chiselling on both blocks corresponds exactly to the level of the floor of the reservoir; the extant portions of the two columns of the inscription, therefore, were below this new floor, and were covered by the filling. Consequently, the chiselling, which erased the upper parts of the inscription, and which appears also on the uninscribed block, dates from the making of the reservoir, that is, from comparatively late times, when the building was no longer used as a temple, and the object of this chiselling was to render the surface of the wall rough enough to hold the coating of cement. It follows that this document was not cancelled to prove that Mnesimachus paid his debt. Of course it is to be hoped that he did pay, however, and obtained some sort of a receipt.

WILLIAM K. PRENTICE.

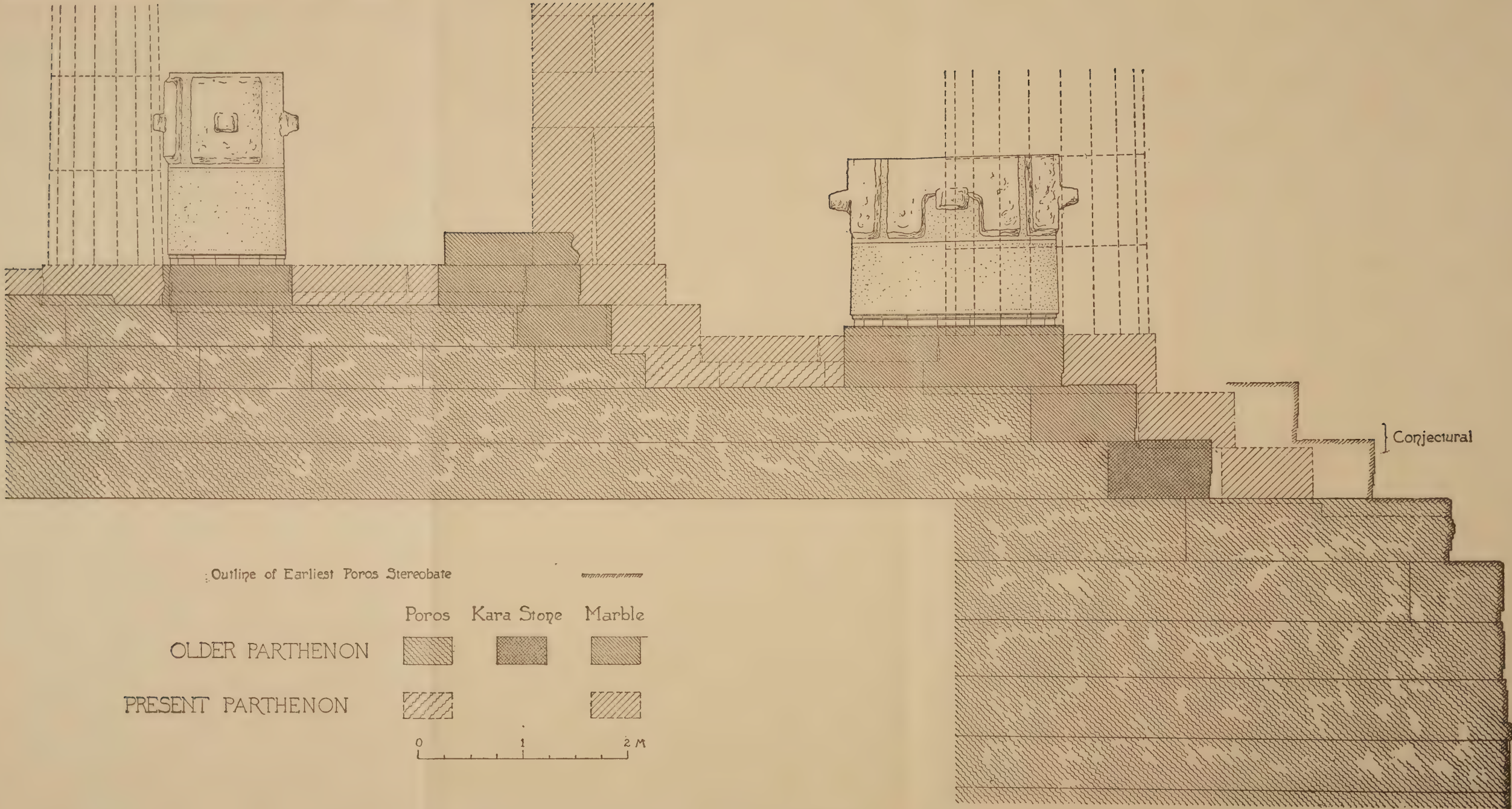
PRINCETON UNIVERSITY,

October 3, 1912.

with a marble block of equal height (0.88 m.), 1.10 m. in length, the east end of which touches the northeast corner of the opisthodomus. The horizontal strip of chiselling on the inscribed block is prolonged without a break across the whole south face of this adjacent block. In the immediate neighborhood of these two blocks the rest of the course of masonry to which they belong has now vanished (cf. *A.J.A.* XV, pl. X). At some time in the Byzantine period the great building, no longer used as a temple, was fitted up as a reservoir. It was then doubtless that these blocks — as well as others adjacent, which have since been destroyed — were chiselled so as to enable the inner face of the wall to hold a waterproof lining. The lower part of the wall and of its inscribed surface escaped chiselling because the bottom of the opisthodomus was filled with rubble to make its floor level with that of the cella, and this filling protected both wall and inscription up to the horizontal line, formed by the floor of the reservoir, at which the chiselling and lining began.

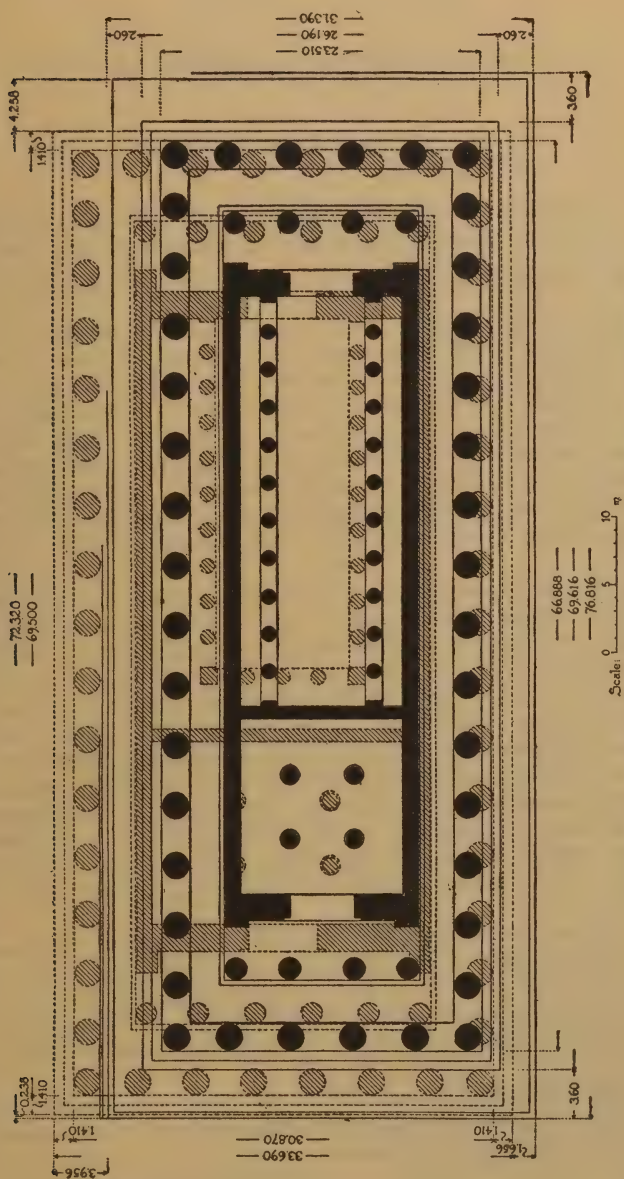
W. H. BUCKLER.

D. M. ROBINSON.



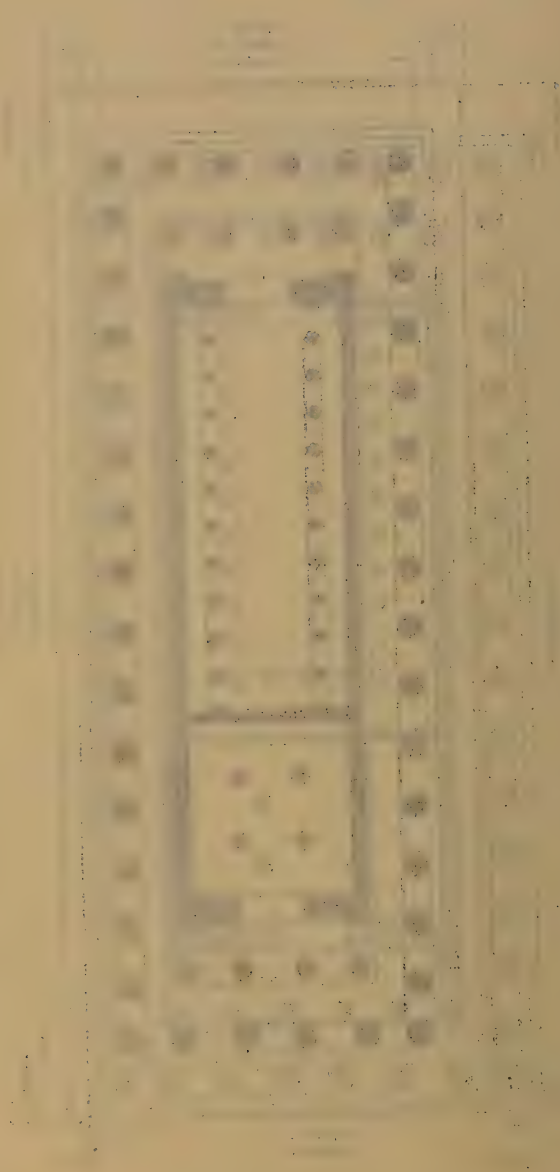
THE PARTHENON. SECTION OF SOUTH STEREOBATES, LOOKING EAST





GROUND PLANS OF OLDER AND LATER PARTHENON

(The measurement 4.258, at the northeast corner, should extend to the outermost line at the east)



American School
of Classical Studies
at Athens

THE OLDER PARTHENON¹

[PLATES VIII-IX]

THE substructure of an earlier temple on the site of the Parthenon was discovered by Professor Ross in the course of his excavations of 1835-36. It is about four metres longer

¹ The investigation into the remains of the "Older Parthenon" upon which this article is based was carried to its present stage during the year 1910. I have since been intending to resume the work and bring it quite to an end before publishing a report of results. It has, however, become clear that such a course would greatly protract the already long delay in publication, without promising to modify seriously the conclusions already reached or to add very much of importance to them. The present article has accordingly been prepared by revising a paper read before the General Meeting of the Archaeological Institute in December, 1910 (*A.J.A.* XV, 1911, p. 75), and adding to it notes and illustrations.

Outside the great foundation and the part of the superstructure still *in situ*, my lists show 250 stones from the Older Parthenon — 38 at various points within the Acropolis, 177 in its north wall, and 35 built into the present Parthenon, besides the large number of blocks used there which may be credibly assigned to the earlier temple on the sole evidence of their dimensions. Of the stones listed, 175 have been carefully examined. In order to allow a new examination of the foundations within the Parthenon — believed to be partly of the earlier temple, *in situ* — excavations were made in April-May, 1910, wherever the absence of pavement rendered them possible. This had been done once already, except in the northeast corner of the peristyle, in the course of the general excavation of the Acropolis by the Greek Archaeological Society in 1885-1889. Small excavations were made at the same time at several points close to the Acropolis walls.

The expense of this work was met by the American School from funds given by Mrs. J. M. Sears of Boston and Mr. and Mrs. R. B. Potter of New York. I am under much obligation also to Professor A. N. Skias, then Ephor of the Acropolis, and to Mr. N. M. Balanos, the Architect directing the restoration of ancient buildings, who with unfailing readiness lent me workmen and apparatus at need.

The drawings are the work of Mr. W. B. Dinsmoor, whose assistance in many ways I would gratefully acknowledge. Three of the photographs reproduced are published by courtesy of the German Archaeological Institute; the others are from the American School's collection.

than would be needed for the Parthenon, and about two metres narrower. For the half century following the discovery of this substructure, scholars were unanimous in assigning to the temple which had rested upon it the marble and limestone steps, the marble column drums, and the poros Doric entablature conspicuous in the north wall of the Acropolis. The temple was identified as that Hecatompædon burned by the Persians, which Hesychius (*s.v.* Ἑκατόμπεδος) says was fifty feet shorter than the Parthenon; and it was variously restored: with 6 by 13, 6 by 14, 8 by 16, 6 by 16, and 8 by 17 columns, according to the restorer's interpretation of the passage in Hesychius and of the evidence afforded by the foundation.

The difficulty caused in all these restorations by the combination in one building of a finished poros entablature with unfinished marble columns was cleared up in 1886 by the discovery of the foundations of an old peristylar temple just south of the Erechtheum, and of completed column drums of poros suitable in size and character to the poros entablature. It then became plain that the blocks built into the north wall of the Acropolis belonged to two separate temples, one of poros, completed; the other largely of marble, and unfinished. Since the discussions of the few years following the discovery of the old temple beside the Erechtheum, practically all scholars have accepted Professor Dörpfeld's attribution of the poros remains to that temple (the true Hecatompædon), and of the unfinished marble columns to the "Older Parthenon," by which name the earlier temple on the site of the Parthenon has for convenience come to be known.

Dörpfeld's restoration, too, of the Older Parthenon has everywhere been adopted. According to this, the peristyle of the temple had marble columns resting upon a stylobate of the hard limestone known as Kará stone. Below the stylobate were two, relatively narrow, steps of poros stone. The temple had eight columns at the ends and nineteen on the sides, both sides and ends showing axial distances of 4.12 m. Within, the restoration gives a hexastyle temple of marble raised on one high marble step. The unusual combination of materials is explained as due to a change of plan in the course of the construction of the temple. It had been begun under the Democracy after the expulsion of the Tyrants, and the construction had proceeded

as far as the stylobate; it was the intention to erect a superstructure of poros, when the work was interrupted by the first Persian invasion. After the victory at Marathon, it was decided to continue the construction in marble instead of in poros, but the limestone krepidoma was left unchanged. Work had proceeded only a little further when the Acropolis was sacked by the Persians under Xerxes.¹

The investigation of which this paper reports the results yields no evidence to modify materially the history outlined

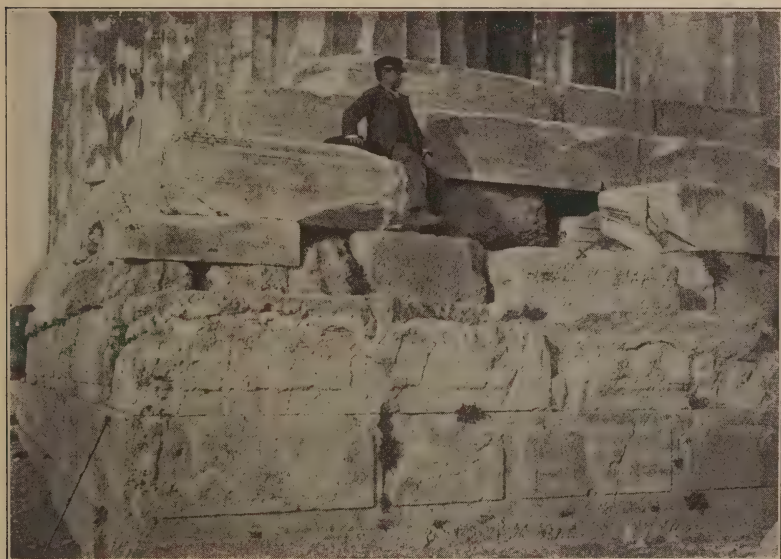


FIGURE 1. — SOUTHWEST CORNER OF THE PARTHENON.²

above, but our conception of the precise form of the unfinished temple destroyed by Xerxes must now be considerably changed (see PLATE IX). The accepted restoration, as already stated, calls for two poros steps (these exist *in situ*, and about them there can be no question; see PLATE VIII), and above them a stylobate of Kará stone. Of this stylobate one block is visible

¹ W. Dörpfeld, *Ath. Mitt.* XVII, 1892, pp. 158-189, XXVII, 1902, pp. 379-416.

² Southwest corner of the Parthenon, from the South. At ×, block of Kará stone belonging to the Older Parthenon. From a photograph of the German Institute.

in the foundations of the present Parthenon, set back about 1.70 m. from the position it is supposed to have occupied originally (Fig. 1). In the north wall of the Acropolis there are about fifty more blocks of like character (Fig. 2). They are easily identified by their material, dimensions, and profile (see Fig. 3).

All of these blocks that can be examined, instead of having the breadth necessary for the stylobate, some two metres, are



FIGURE 2. — NORTH WALL OF THE ACROPOLIS NEAR THE ERECHTHEUM.¹

from 0.90 m. to 0.99 m. wide ; they have their original finish on the rear edge, and so cannot be explained as halves of stylobate blocks which have been split ; to form the stylobate they must have been laid in two rows with an irregular joint between — an altogether improbable arrangement. Several of the blocks have cuttings for clamps at their ends (we should certainly not expect this in the stylobate) ; and all those found

¹ From a photograph of the German Institute. Outside of the north wall of the Acropolis near the Erechtheum, built partly of material from the Older Parthenon. Photographed from west of north. The Kará blocks are in the course immediately below the column drums.

well preserved have a raised surface some 0.65 m. wide, on the front part of the top (the "tread"), the rest of the width of the block being cut down to a smooth bed (Fig. 3). All this can be explained only by interpreting the blocks as parts of a step, not of a stylobate; and some of them still show the scratched line, 0.695 m. from the edge, to indicate where the step above was to be set. The width of the finished step, after removal of the protecting surface, would have been 0.673 m.

There have been found also, in or near the north wall of the Acropolis, some half dozen marble blocks from a step 0.521 m.

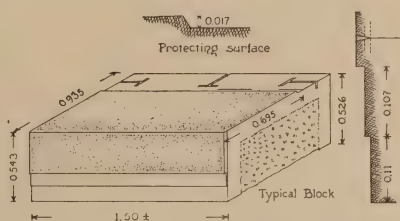


FIGURE 3. — STEP OF KARÁ STONE.

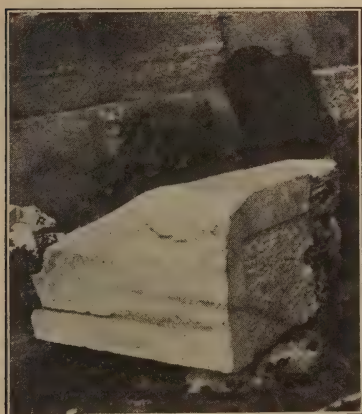


FIGURE 4. — BLOCK FROM MARBLE STEP.¹



FIGURE 5. — BLOCK FROM MARBLE STEP.²

high, belonging unmistakably to the same building as the unfinished marble columns and the Kará steps. Like the latter, these steps have a raised protecting surface on the treads and risers; and they were in all cases bonded by |—| clamps (Figs.

¹ Lying northwest of the Erechtheum. A block from the middle step of the Older Parthenon, preserved in every dimension except length.

² The top of another block of the middle step. A part of three faces only is preserved; but the protecting surface on the tread, and the bed cut out for the next course above show better than in Figure 4.

4, 5). A corner block which preserves the setting line for the next course above shows that the width of the marble step when finished was to be 0.667 m. on the sides of the building and 0.679 m. at the ends (Fig. 6).

There is another series of marble blocks, 0.564 m. high when complete, which in the accepted restoration are used in the base

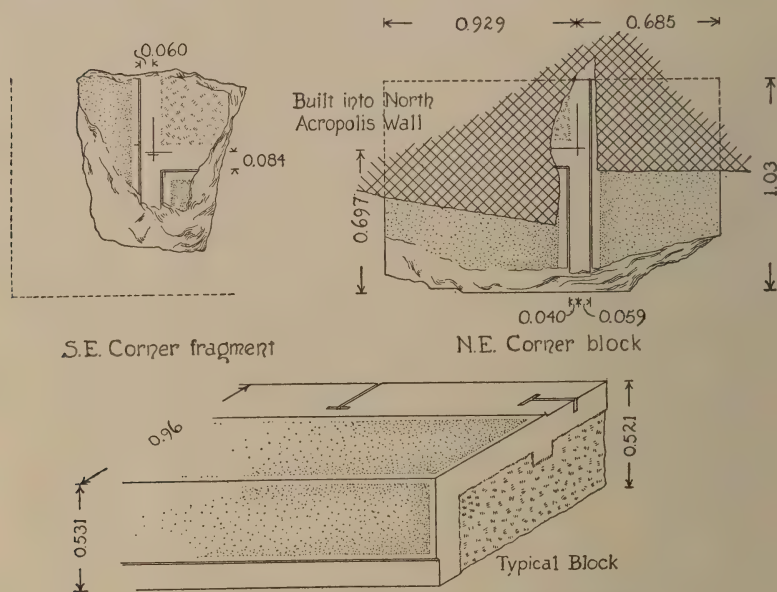


FIGURE 6. — MARBLE BLOCKS OF MIDDLE STEP.¹

of the wall of the cella, but which belong in fact to the stylobate of the peristyle (Fig. 7). They are on the average about 1.50 m. in length, and in breadth about 0.95 m., but one surface is in every case not original; that is, they are the halves of stylobate blocks once some two metres wide, which have been cut in two.

¹ The small fragment shown here was found in excavation close behind the wall of the Acropolis, near the Erechtheum; it is from the southeast or, perhaps, from the northwest corner. The measurement given in the cut as 0.084 should be 0.074 (that is to say, the shorter of the two setting lines marked in the cut is probably the real one; it is 0.010 m. from the other), which agrees very well with the corresponding measurement (0.075 m., not given in the cut) for the fragment of the northeast (or possibly southwest?) corner block. This (the larger fragment in the cut) is built into the bottom course, outside, of the Acropolis wall, a little west of the salient angle north of the Erechtheum.

Seven such blocks, with the full width preserved, are known, two built into the walls of the Acropolis, four in the foundations of the present Parthenon (Fig. 8), and one lying near the Acropolis Museum (Fig. 9). This last shows a segment of the circular bed for a column, as indeed do three of the half blocks already referred to (Fig. 10). The traces suit the dimensions of the preserved, unfinished column drums, and the



FIGURE 7. — MARBLE BLOCKS IN THE WALL OF THE ACROPOLIS.¹

blocks unquestionably belong with them to the earlier Parthenon (Fig. 11).

We must therefore place in the peristyle of the Older Parthenon above the two poros steps still *in situ*, not the Kará stylobate provided for in the accepted restoration, but a lower step of Kará stone, a middle step of marble, and a stylobate of marble.

¹ Acropolis wall from within, northeast of the Erechtheum. Stylobate blocks of the Older Parthenon show in two courses above the column drums. All these blocks have been cut in two, but the surfaces which show here are original, either back or front.

If now this stylobate and the two steps are placed directly upon the existing poros podium, so that the two steps of the latter would be the lowest of a five-step krepidoma (two poros, one Kará, two marble), the length of the stylobate at the ends of



FIGURE 8. — NORTHWEST CORNER OF THE PARTHENON.¹

the temple will be 26.87 m., and on the sides 72.27 m.² With a normal spacing of the columns, the diameter of which is about

¹ From a photograph of the German Institute. Northwest corner of the foundation of the Parthenon from the west. Of the three large marble blocks at the bottom the two lowest are full-size stylobate blocks from the Older Parthenon; the third, which preserves two of the original dimensions, seems also surely of the same series, though its height is now only 0.41 m.

² On the finished face of the lower step the podium is 31.390 m. wide and 76.816 m. long (according to new measurements by Mr. Dinsmoor). The combined width of the steps on one side of the temple would be 2.26 m., as follows: First poros step 0.454 m., second poros step 0.466 m. (assuming the same ratio of tread to rise as in the lowest step), Kará stone step 0.673 m., marble step 0.667 m. (at the ends of the building 0.679 m., making the total there 2.272 m.).

$$31.390 \text{ m.} - 2.260 \text{ m.} \times 2 = 26.870 \text{ m.}$$

$$76.816 \text{ m.} - 2.272 \text{ m.} \times 2 = 72.272 \text{ m.}$$

These are *maximum* dimensions of the stylobate; with an increase of the conjectured width of the second poros step, they would be reduced towards a *minimum* of about 30.95 m. by 71.80 m.

1.80 m., these measurements would allow seven columns at the ends and eighteen at the sides ; but an odd number of columns at the ends is, of course, not to be thought of here. With eight columns the intercolumniation would scarcely equal a diameter, so that this arrangement also must be counted impossible. If on the other hand we try six columns, we get an intercolumniation almost a metre greater than that of the present Parthenon.¹ All this makes it very unlikely that the Kará step is to be set directly upon the poros step. We must rather assume that it was placed some distance from the edge, so that the poros podium would make a sort of platform around the temple.



FIGURE 9. — MARBLE STYLOBATE BLOCK.²



FIGURE 10. — HALF BLOCK OF STYLOBATE.³

The one analogy near by is the Temple of Poseidon at Sunium. With six columns having a normal axial spacing — equal, for instance, to two and one half diameters — the platform left at the sides of the temple would be 2.23 m. wide ; that is, the lowest (Kará) step of the temple would be set 2.23 m. from the edge of the upper poros step of the podium.

¹ The axial distances of the columns at the ends of the temple would be approximately the following : —

With seven columns 4.35 m. (3.67 m. next the corners).

With eight columns 3.73 m. (3.05 m. next the corners).

With six columns 5.21 m. (4.54 m. next the corners).

The corresponding distance in the Parthenon is 4.296 m.

² Full-size stylobate block now lying west of the Museum. It is wrong side up. Of the two vertical surfaces which show, that to the right is the front.

³ A stylobate block cut in half, lying west of the Museum. The bed cut for a column shows at the nearest corner. The right-hand vertical surface is the new one of the time of the splitting of the block. The part left here is the rear half.

The Kará block (Fig. 1) under the southwest part of the Parthenon (shown, pp. 538 f., to belong to a step rather than to the stylobate of the earlier temple, but assumed in either case to have been placed where it now is by the builders of the existing temple) is 2.146 m. — nearly enough the 2.23 m. suggested above — from the face of the upper step of the podium; and it is a corner block (having the same profile on the west as on the south face), accurately aligned with the orientation of the older

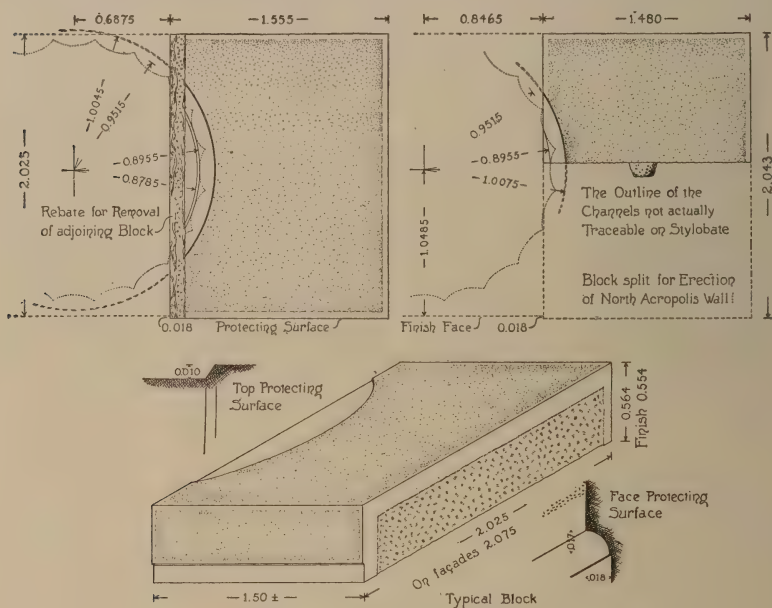


FIGURE 11. — DETAILS OF MARBLE STYLOBATE BLOCKS.¹

as well as of the present Parthenon. Though its present use is as a “backer” of the lowest step of the Periclean Parthenon, it is not set close behind that step in the normal manner, but there is between it and the marble step of the Parthenon a space of about 0.20 m. (PLATE VIII).² The poros podium underneath this Kará block has been cut down close outside it about 0.02 m.,

¹ Details from the blocks shown in Figures 9 and 10. The outline of flutings, added to indicate the exact position of the column, is drawn from the admirably preserved column drum lying near these stylobate blocks, southeast of the Parthenon.

² See also Middleton, *Plans and Drawings* (*J. H. S. Suppl. III*), pl. 8, xlii.

as a bed for the lowest step of the existing temple. The Kará block was certainly in its present position when the cutting was made, for this follows close to the edge of the block in a straight line, where the edge is preserved, and then turns in somewhat, where the corner of the Kará block has been broken off; marks may even now be detected where the chisel hit the face of the Kará stone (Fig. 12). Now the normal order of placing the blocks of the present building would have been to prepare this bed, place the step in it, and afterwards set the



FIGURE 12. — CORNER BLOCK OF THE LOWER STEP OF THE OLDER PARTHENON.¹

backing stones, as was done in the case of the poros backers immediately west (left) of the Kará block. Instead, however, of this natural sequence, we find the Kará backer first in position, before the bed was cut and the marble step set in place. The only reasonable inference is that the builders of the Parthenon found the Kará block where it now is and used it undisturbed.

Since, therefore, this block of the Kará stone step was in its present position before the building of the Parthenon, and is rightly placed and perfectly aligned for the earlier temple, there

¹ Nearer view of the Kará block shown in Figure 1. The bed cut in the poros podium for the lowest step of the Parthenon may be seen.

can be little doubt that it is *in situ*. If so, we have in it the lowest step of the Older Parthenon at the southwest corner. Investigation shows this course to be preserved at a number of points farther east (Fig. 13), and it may be positively asserted that this lowest step of the Older Parthenon is in place on the south side for very little short of its entire length. In fact, only the southeast corner block is lacking. If that be restored with a length of 1.403 m. (the southwest corner

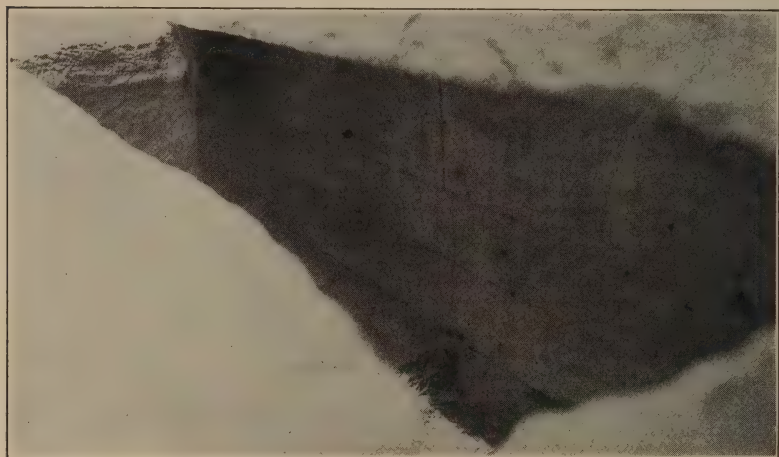


FIGURE 13. — STEP OF KARÁ STONE *IN SITU*.¹

block measures 1.455 m.), the east end of the temple will be as far from the end of the podium as the west end of the tem-

¹ Foundation of the middle step of the Parthenon, near the southeast corner. Here one of the blocks of the lowest step—already thrust quite out of place, doubtless by earthquakes—has been drawn forward so as to allow the removal of the ancient filling and subsequent accumulation from behind it and the adjacent blocks. As may be seen in the photograph, the hope of discovering the Kará step of the Older Parthenon in place here also, as at the southwest corner, was not disappointed. One of the perfect joints which have been found, to complete the proof that the Kará blocks are *in situ*, appears here. In the lowest fascia the joint is so close as to show only a fine line (hardly discernible in the photograph); it is more open in the two upper fasciae because this part of the step was never worked back to the finished surface (see Figure 3).

The filling in the space between the earlier step and the later consisted almost exclusively of chips of Kará stone swept in, of course, when the older step was being cut down to make a bed for the second step of the new Parthenon. Under the chips of stone were found a bronze mirror and a broken whetstone, deeply worn.

ple actually is, 3.60 m.; 3.146 m. from the upper step of the podium.

If then the bottom step (of Kará stone) be centred on the podium (PLATE IX), leaving outside it a poros platform 3.146 m. wide at the ends and 2.146 m. wide at the sides, the dimensions of the temple, measured on that step, will be: length, 69.616 m.; width, 26.190 m. For the length of the platform is 75.908 m. (or 76.816 m. a step lower on the actual podium or foundation);

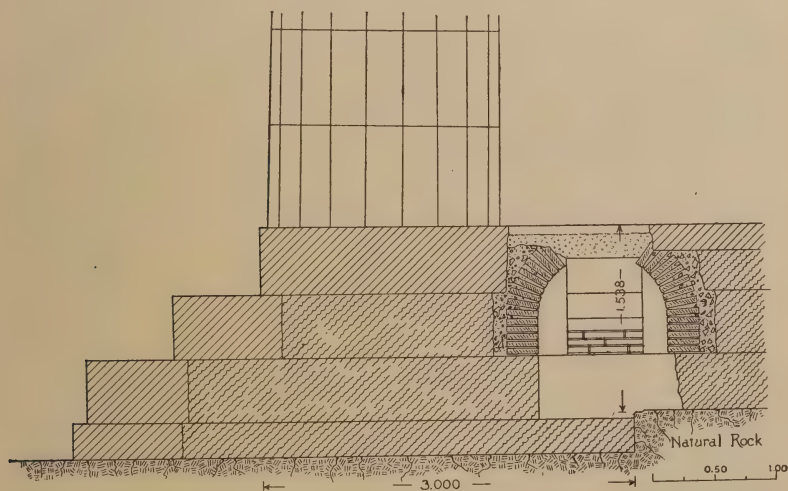


FIGURE 14. — BYZANTINE GRAVE IN NORTHEAST CORNER OF PERISTYLE.
SECTION LOOKING EAST.

and its width 30.482 m. The latter dimension could be measured directly for the first time in May, 1910, when the clearing of a Byzantine grave in the northeast part of the Parthenon (Fig. 14) revealed the well-preserved northern edge of the platform (that is, the upper step of the poros podium) cut in the native rock. Since the breadth of the finished tread of the Kará stone step (Fig. 3) was 0.673 m. on the sides of the temple ¹ (it was probably more at the ends), and the width of the marble middle step

¹ Confirmed by Mr. Dinsmoor's discovery — made while he was preparing his drawings — of part of the middle marble step actually *in situ* near the east end of the south side of the temple, in just the line expected (cf. PLATE VIII). The step, thus found at the single point in this side where a glimpse of the backing of the second step of the Parthenon is possible, is most probably in place, like the Kará step, along the whole south side of the older temple.

(Fig. 6) 0.667 m. on the sides and 0.679 m. on the ends, the dimensions of the stylobate would be 23.510 m. by 66.888m.¹ This allows six columns at the ends, with an axial spacing of 4.53 m., and sixteen on the sides, with an axial spacing of 4.40 m., an arrangement that conforms perfectly to the standard of the time in which we may be sure this part of the temple was built. The stylobate blocks for the ends of the temple show



FIGURE 15.—EXCAVATION IN THE SOUTHWEST CORNER OF THE CELLA.²

a width of 2.09 m., those from the sides a width of 2.04 m., a difference which corresponds with the difference in the axial spacings on the sides and ends, and indicates the usual slight

¹ Upper tread 0.667 m., at ends 0.679 m.

Lower tread 0.673 m., at ends 0.685 m. (?)

1.34 m.

1.364 m.

26.19 m. — 1.34 m. $\times 2 = 23.51$ m.

69.616 m. — 1.364 m. $\times 2 = 66.888$ m.

² Excavation in the southwest corner of the cella of the Parthenon from the southwest. The lowest course of the foundation visible is that ranging with the stylobate of the peristyle of the Older Parthenon. Blocks of the course at the left and middle of the picture are in their original places, but the marble block (that with the moulded profile) and those back of it are a new foundation for the pavement of the present Parthenon.

variation in the size of the columns. The stylobate was so laid that the whole length of every third block would be underneath a column, while a small segment of the column rested on each of the adjacent blocks (Fig. 11), the reverse of the arrangement in the new Parthenon, where every third *joint* of the stylobate is under the centre of a column.

Excavations¹ made inside the Parthenon show everywhere (Fig. 15) within the limits marked out for the Older Parthenon a poros foundation *in situ*, corresponding in its courses with the levels of the steps of the peristyle, while the course ranging with the stylobate is about 0.10 m. lower than the stylobate itself (PLATE VIII). In at least one place there is above this course another, 0.385 m. high (Fig. 15), from the Older Parthenon, and still *in situ*; it bears the setting line for the southern interior stylobate, and is therefore part of the topmost course of the foundation within the cella.

The lower step of the cella of the present Parthenon is composed in large part of re-used blocks from the earlier temple. This is shown, in the case of all of them that can be examined,

¹ These were all made for the second time, the same holes having been cleaned and refilled in 1889, during the general excavation of the Acropolis by the Greek Archaeological Society.

² The lower step of the cella of the Parthenon, at north side near east end, photograph taken from the west. Old and new clamp cuttings appear in the step itself, and the old clamp cuttings in one or two of the blocks backing the step.

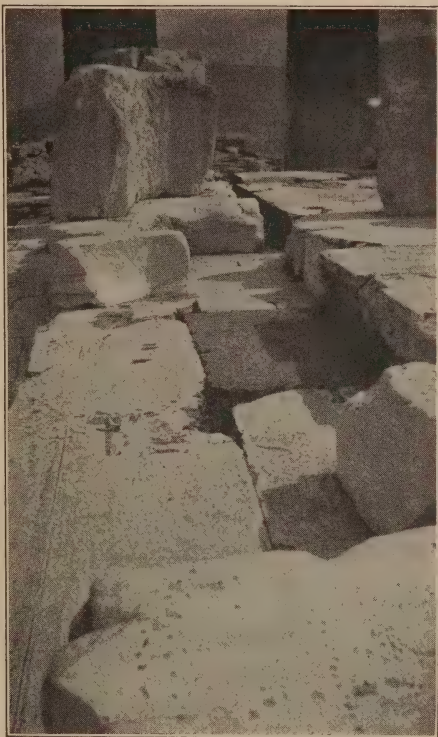


FIGURE 16. — RE-USED MARBLE BLOCKS.²

by the fact that they have two sets of clamp cuttings (Figs. 16 and 17). Those of the first set, from which the clamps have been removed by orderly chiselling, do not match in the adjacent stones; those of the second set always do so match, and the clamps, when they are missing, have been hacked out in the manner usual to modern searchers for lead. Clearly only these latter clamps belonged to the existing temple. Now the blocks thus proved to have been put to an earlier use are on the average 1.77 m. long. This is a standard length (six Solonian feet) in the substructure of the Older Parthenon, but it is not normal

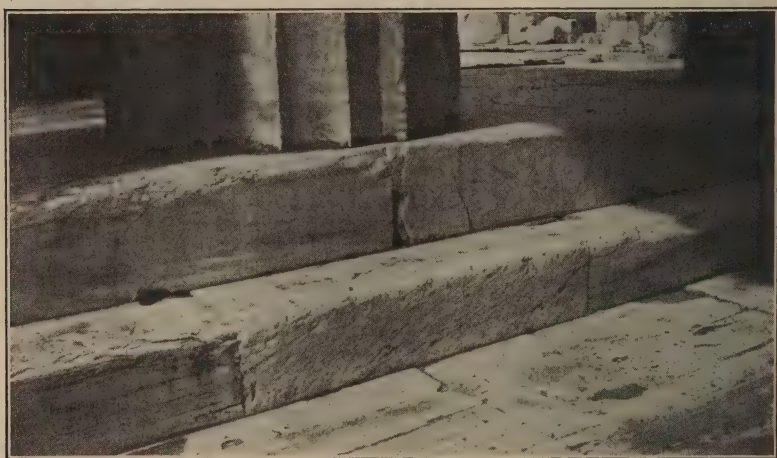


FIGURE 17. — RE-USED MARBLE BLOCKS.¹

for the present Parthenon. It is, however, the average length of twenty of the twenty-nine blocks of the lower step of the north side of the cella and of a number on the other sides. All these had doubtless been used in the older Parthenon.

The height of these blocks is 0.385 m., the same, that is, as that of the uppermost course of the foundation *in situ* within the older cella (PLATE VIII). Ranged with this course, as seems most natural, the marble blocks will have in the older building the position they have in the new; and no other rea-

¹ Southern part of the steps of the pronaos of the Parthenon, with old clamp cuttings showing in two blocks of the lower step; a rather conspicuous place for such imperfections, but doubtless small pieces of marble were carefully fitted into the cuttings, so that they scarcely showed when the building was new.

sonable place can be found for them. The visible height of the step thus placed would have been about 0.28 m., when the pavement of the peristyle had been put in place. This, however, was never actually laid.

On the north side of the present Parthenon, where, as has already been said, a large majority of the blocks are clearly from the older building, the tread of this step is about 0.296 m., the Solonian foot, while the breadth of the same step on the south side is 0.328 m., the Aeginetan foot, which we know from the Propylaea and the Erechtheum, and indeed from the Parthenon itself, to have been the standard foot in Athens in the age of Pericles. We may then, I think, infer that the tread which has the width of the older foot is a survival from the older temple, and we may fairly restore it on both sides of the cella of that temple. The existing Parthenon shows an analogous discrepancy between the steps of the pronaos and of the posticum, and here, too, we may with probability take the narrower step as showing the width in the earlier building.

At least four blocks exist which may reasonably be assigned to an upper step of the older temple.¹ It would be, like that of the present Parthenon, 0.385 m. high, which equals the width we have taken for the tread of the lower step at the ends of the older temple.

The peristyle having six columns at the ends, the temple itself will have been either distyle *in antis* or tetrastyle at each end. That it must have been the latter is certain from the fact noted by Penrose, who draws the correct inference, that there are preserved five bottom drums of columns of the order of the pronaos and posticum, 1.604 m. in diameter within the flutings. That the temple was prostyle is now shown further

¹ It must be granted that the second step to the cella is probable, only, rather than absolutely sure. The blocks here assigned to the upper step differ from those of the lower in breadth and in the position of their clamps; but they may possibly, nevertheless, since they have the same height, have been part of the same course. And the width, 0.296 m., given above to the first step, is obviously not well enough established to be admissible evidence in proof that a second step existed, though the course immediately under the wall certainly did not project so much as 0.296 m.

Further investigation may, I think, be expected to solve the problem. In the meantime the second step of the cella shown in Plates VIII and IX is admittedly in a measure conjectural.

by the fact that a marble base used in the foundation of the pavement of the present Parthenon (Figs. 15, 18) is the base of an *anta* of the earlier temple.¹ This anta base projected from an end wall only about 0.50 m., so that the columns must have been in front of, and cannot have been between,

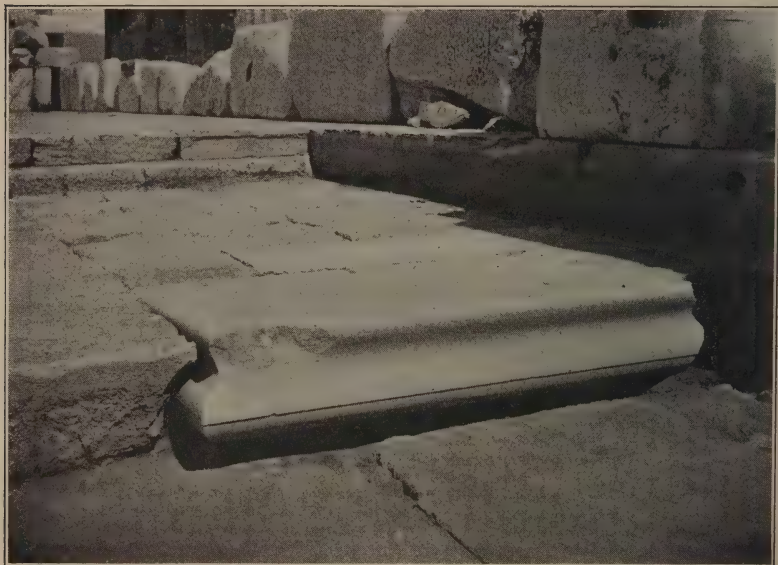


FIGURE 18. — ANTA BASE OF OLDER PARTHENON.

the *antae* (Fig. 19). The base has the so-called Attic profile, two toruses with scotia between. The surface is cut

¹ The anta base had been uncovered, and then reburied, in 1889, and is shown on Kawerau's plan (Kabbadias-Kawerau, *Ausgrabung der Akropolis*, pl. Z', no. 68, and p. 106) as a marble pedestal. The necessity of remeasuring this, and learning whether it belonged to the Older Parthenon, was one of the primary reasons for reopening the excavation in 1910. Recently my attention has been called by Dr. Paton and Mr. Dinsmoor to two passages which trace the modern history of this stone back to the time of Lord Elgin. Dodwell (*Tour through Greece*, I, p. 331) says that part of the Parthenon pavement was torn up by the agents of Lord Elgin, revealing a stratum of poros stone, and some (?) blocks which "were ornamented with mouldings, and probably belonged to the ancient Hekatompedon." Joseph Woods (*Letters of an Architect*, II, p. 251) is more specific, telling us that there was but one moulded slab, and that it was of marble, *i.e.* the very one now extant; "a large slab of marble moulded on the edge, appeared underneath the pavement, which must have been buried at the time of the erection of the temple."

smooth only near the bottom, and the rest is left to be finished after the wall is completed. The condition of the top of the block indicates that it had itself been set in place, but had not been prepared to receive the course next above — the orthostates — when the temple was destroyed. Besides this anta

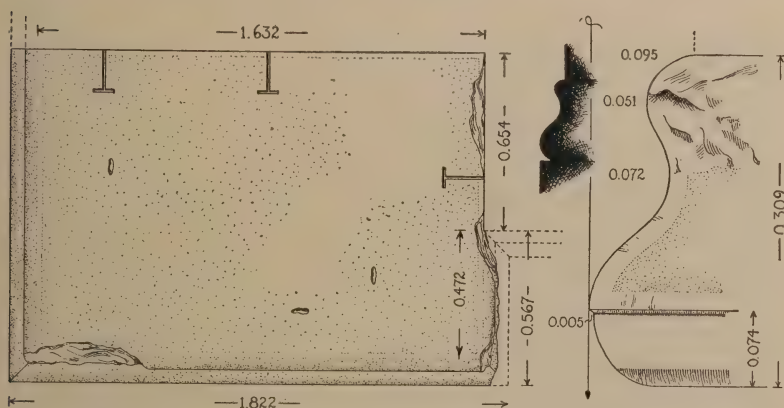


FIGURE 19. — DETAILS OF ANTA BASE OF OLDER PARTHENON.¹

block, we have six blocks from the moulded wall-base built now into the inside of the western wall of the Parthenon (Fig. 20).

It is interesting to observe that the existence of a similar moulding at the base of the cella wall of the Theseum can no longer be used in evidence to prove that that temple is later than the present Parthenon. Indeed, the use of the moulded base and the fact that the lowest step of the Theseum, like that of the Older Parthenon, is of limestone (though in the Theseum it is poros, not Kará stone), while all other visible parts of the temple are of marble, tend to show that the Theseum is, so far at least as its beginnings are concerned, older than the Periclean Parthenon.

For the restoration of the plan of the cella of the Older Parthenon there is one new piece of evidence, while evidence hitherto deemed important must be rejected. The latter is the supposed foundation wall visible in the eastern part of the

¹ The T-clamp cuttings shown are original; the pry holes are later, coming where there chanced to be joints in the pavement of the present Parthenon.

cella of the present Parthenon (Fig. 21, marked $\times \times$), which has been held to define the position of the northern wall of the cella of the Older Parthenon.¹ Since the width of the stylobate of this temple, as now established, is less than was supposed, it is impossible that the northern cella wall could have occupied just this position; but in any case the supposed



FIGURE 20. — BLOCKS² OF MOULDED WALL-BASE.²

foundation wall is really not a separate line of wall, but only part of two courses of the general foundation, and the stones of the upper course are not now even in their original position. This is shown, among other things, by the presence of two series of scratch lines on the upper surface. One series is regular and gives the line for setting the interior stylobate of the present Parthenon; the other series appears on several of the stones, but the marks do not now lie in a single, straight line, a fact

which indicates that the stones have been moved from the position they occupied when the lines were first drawn.

The new evidence is found in that part of the uppermost course of the poros foundation already stated to be *in situ*. Here a scratch line running east and west (under the southern part of the stylobate of the southern row of the interior columns of the present temple; at $\times \times$, Fig. 15) seems certainly to

¹ Cf. Penrose, *J.H.S.* XII, 1891, p. 285, Pls. XVI and XVII; Dörpfeld, *Ath. Mitt.* XVII, 1892, p. 178.

² Blocks of wall-base similar to the anta, used as filling between the orthostates of the west wall of the Parthenon. The picture shows the backs of three of the blocks as they appear at the north side of the door which leads to the spiral staircase of the Turkish minaret. Two others are immediately south of the door, and a sixth beyond them. This and the eastern of the two have the moulded front preserved. The moulding can be reached and examined by touch from the doorway.

have been a setting line for the interior stylobate of the earlier temple. The probabilities are that the columns are to be placed south, rather than north, of this line. A partly finished second (or higher) drum of one of these columns, which measures 1.10 m. in diameter over the final, cylindrical protecting

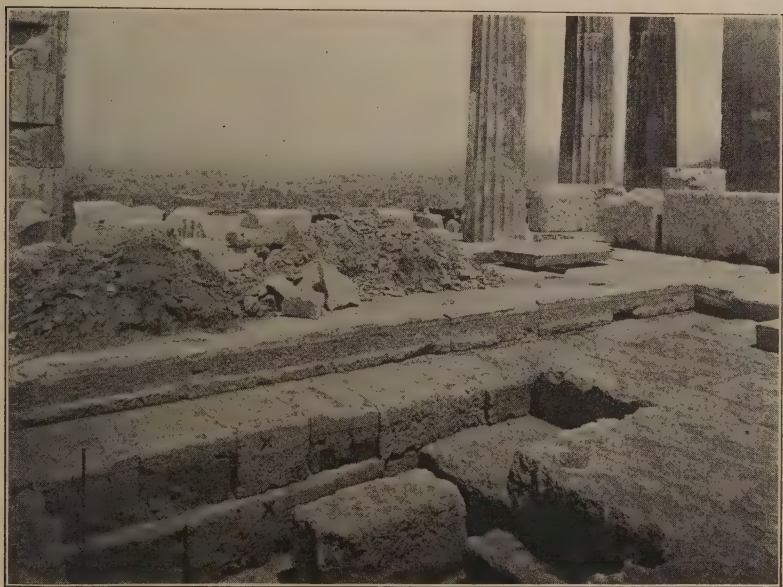


FIGURE 21. — EXCAVATION WITHIN THE PARTHENON.¹

surface, indicates that the order was slightly smaller than that of the cella of the existing Parthenon.

The setting line mentioned above extends so far to the west as to make it probable that the cella of the earlier temple was little, if at all, shorter than that of the present one. And, since the cella of the present Parthenon bore officially the name *Ἐκατόμπεδος Νεώς*, though it is only ninety-one feet long measured by the standard actually current when it was built, while it measures one hundred and one of the older feet, it seems reasonable to infer that the actual length of the new cella was taken over, and the name with it, from the Older Parthenon.²

¹ In the eastern part of the cella just south of the northern, interior stylobate. The picture is taken from west of south. The so-called "foundation wall" shows under and south of the stylobate.

² From faint traces on the pavement Penrose (*Principles* ², p. 9) reckons the

Whether the cella of the older temple is rightly restored (PLATE IX) as one hundred feet long, or something short of this, there is space for only one room at the west, not for the three rooms adopted in the accepted restoration from the old Hecatompedon. The precise width of the cella has been determined only conjecturally: it must be narrow enough to leave a reasonable space between its walls and the columns of the peristyle and broad enough to leave a reasonable aisle between the wall and the interior columns; its width, whether as broad or as narrow as possible, should conform within reason to the standard for four Doric columns of the size of those known to have stood in the pronaos and posticum. The distance between these tetrastyle porticoes and the outer colonnade, their exact depth and the resultant position of the end walls of the temple,¹ the precise thickness of the various walls, the position of the partition, and the number and distribution of the interior columns must remain in the present state of the evidence matters of conjecture. But of conjecture within rather narrow limits; the degree of variation in admissible restorations is in all these details relatively small. This is true of the temple itself, within the peristyle; in the case of the latter, the evidence has, I hope, been shown to be sufficient for a restoration with only a very small margin of possible error.

This discussion has been confined to the temple actually found by the Persian invaders. That the great podium had not originally been designed to receive so small a temple seems certain, but no stones have appeared that can with plausibility be attributed to any part of an original temple above the two steps of the poros podium. A peristyle with 6 by 15 poros columns of large dimensions (slightly smaller than those of the unfinished

maximum diameter of the columns in the cella of the Parthenon as 1.114 m. The earlier column seems to have had a bottom diameter of not less than 1.07 m. The preserved drum, which lies east of the Acropolis Museum, is shown (upon a restored bottom drum) in PLATE VIII.

¹ In the plan (PLATE IX) the temple has been given very nearly the maximum length. It is possible that the cella should be made to coincide at the ends with the cella of the Parthenon and the whole length of the building within the peristyle be reduced. This reduction of total length would be lessened if the pronaos were made deeper than the posticum by assigning the preserved anta base to this latter and assuming a greater projection for the antae of the pronaos.

sixth century Olympieum) suits the proportions of the podium, and allows a more probable sequence of projects than does the best alternative plan with 8 by 20 columns only slightly larger than those of the Hecatompodon.¹ The first project would then have been a poros temple with 6 by 15 columns much larger than those of the Hecatompodon; the next one, the Older Parthenon, a more costly marble temple with 6 by 16 smaller columns (still, however, greatly surpassing the Hecatompodon in size as well as in material); and finally the present Parthenon with 8 by 17 columns.

It must be supposed, I think, that, when work on the new marble temple was interrupted by the invasion of 480 B.C., the steps and stylobate of the peristyle and the steps of the podium of the cella, with probably also the interior stylobate, had been completed; that one or two drums of many, perhaps most, of the columns of the peristyle, and one drum at least of the majority of the columns of the pronaos and posticum, and something too of the interior columns, had been set up; that part of the moulded wall-base of the cella was in place, but above it probably nothing. Around the columns would have been a heavy scaffolding which, in burning, must have injured the stones already in place to such an extent that there could be no question of continuing the construction without first replacing many blocks. Indeed, after the Persian wars, the ruined new temple, like the ruins of the Hecatompodon, furnished material for the builders of the north wall of the Acropolis. They, however, seem to have taken stones from the northern part of the temple chiefly — as would be natural — and to have used of the marble available only much-damaged blocks. When

¹ The stylobate if set directly upon the existing two poros steps with the upper tread equal to the lower (0.454 m.), will measure 29.57 m. by 75.00 m. With 8 by 20 columns the axial distances would then be 4.10 m. at the ends and 3.90 m. at the sides; with 6 by 15 columns, 5.69 m. and 5.28 m. In this arrangement of steps, however, the riser (0.575 m.) is quite disproportionate to the tread (0.454 m.), and I think it probable that the lower step of the podium was planned to be in effect the euthynteria of the temple, with the regular three steps normally proportioned above it, as shown in outline in PLATE VIII. The dimensions of the stylobate would then be 28.18 m. by 73.60 m., treads and risers of the steps being made equal. (The treads might be somewhat broader, and the dimensions of the stylobate slightly reduced.) This allows axial distances of 5.42 m. on the fronts and 5.18 m. on the flanks of a peristyle having 6 by 15 columns.

the present Parthenon was planned, it was made in many dimensions precisely the same as the older temple, so that blocks from the latter, not too much injured, might be used in the new building. Thus the steps and stylobate of the peristyle were made of the same height as the marble step and stylobate of the Older Parthenon; the steps of the cella are of the same height in both temples, and the columns are throughout of very nearly the same dimensions. Thus much of the material already used in the earlier temple, and doubtless much more that was lying about in partly finished blocks, which would probably have been very little injured by the fires of the Persians, could be utilized.

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ARCHAEOLOGICAL DISCUSSIONS¹

SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PUBLICATIONS

WILLIAM N. BATES, *Editor*

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GENERAL AND MISCELLANEOUS

Life in the Stone Age. — In *Z. Ethn.* XLIII, 1911, pp. 821-840, E. HAHN calls attention to certain phases of prehistoric housekeeping which must have existed, but of which practically all traces have disappeared. Primitive man was not exclusively dependent on hunting; grass seeds, fruits, nuts, and roots entered into his economy at the start. The Stone Age was really a wood age, for stone utensils were mounted in wood: wooden hoes, ploughs, and arrows preceded those in which stone and metal were used. Fire was used to make troughs and boats, to fell trees, to clear away underbrush and forests, to parch grain, in cooking with hot stones, even before pots and kettles were invented. Sand was used to prevent fire from burning floors, decks of ships, etc. Huts and boats and utensils, even, were made of bark. Leather must have been used for sails, boats, clothing, bags, pails, ropes, and kettles for cooking with hot stones (*Hdt.* IV, 61.) The fermentation of corn, roots, and vegetables in pits must have been discovered very early as a means of preservation. All of these things point to a long history of slow progress from the wildness of the earliest men to the relatively high civilization of our ancestors of the Stone Age.

The Diluvial Chronology of Western Europe. — In *Z. Ethn.* XLIII, 1911, pp. 945-974 (42 figs.), R. R. SCHMIDT discusses the light cast on the Diluvial chronology of Western Europe by palae ethnology and archaeology as compared with results based on geology and palaeontology alone. Mous-

¹The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor FRANK G. MOORE, Professor CHARLES R. MOREY, Dr. JAMES M. PATON, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Professor JOHN C. ROLFE, Dr. N. P. VLACHOS, Professor A. L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after June 30, 1912.

For an explanation of the abbreviations, see pp. 160-161.

terian, Acheulean, Chellean, and Tertiary periods are discussed and palaeolithic flint implements of these epochs compared.

Prehistoric Remains in Roumania.—In *Z. Ethn.* XLIII, 1911, pp. 582–601 (15 figs.), H. SCHMIDT writes of prehistoric finds at Cucuteni near Jassy in Roumania. These are important to Greek archaeologists because of their connection with prehistoric remains found in Northern and Central Greece. Wicker huts, probably originally covered with mud or clay, a fortified acropolis, two kinds of pottery, one black with white and red ornaments, the other (lower down), polychrome with S spirals left unpainted in the original color (those in the first class have the spirals painted on in color), more primitive vases with scratched ornaments, clay idols, chiefly of females, stone, bone and horn implements mingled with those of copper and even iron, indicating a transition stage between the stone and copper ages, are some of the finds which the author compares with those of Sesklo and Dimini in Thessaly, and the Early Minoan and neolithic periods (Evans) in Crete, Thessaly being once more shown to be a mid-station in the passage from the Danube to Crete.

Prehistoric Painted Pottery of Malta.—In *Ann. Arch. Anthr.* IV, 1912, pp. 121–125 (2 pls.), T. E. PEET discusses the painted pottery of the megalithic period in Malta, attempting to find a chronological sequence.

Dolmens.—In *Rec. Past*, XI, 1912, pp. 14–22 (7 figs.), A. L. LEWIS publishes a general account of dolmens and other megalithic structures.

Religion and Myth among the Early Europeans.—In *Memnon*, V, 1911, pp. 225–236 (2 pls.), R. VON LICHTENBERG asserts that religion among the earliest peoples of Europe arose from the observation of the alternation of becoming and disappearing, particularly the changes of life and death. Later, through the adoption of the phases of the moon for determining the calendar, mythology arose. Religion and myth were originally entirely distinct, but later mythical stories were adopted into religious cults, and the old month-myths were transferred into year-myths. The primitive myths, whose origin lies far back of the separation of the Aryans, we do not possess; but they may perhaps be determined through comparative mythology.

The Illyrian Ancestry of the Albanians.—In *Z. Ethn.* XLIII, 1911, pp. 564–567 (fig.), E. FISCHER brings forth new arguments in support of the thesis that the Albanians are descended from the Illyrians; certain names now in use can be traced back to old Illyrian stems, e.g. *dardha* = Dardani, etc. The Albanian hemispherical cap is like that worn by the Illyrians, as also a short jacket that is still common in the country. Certain foods, too, the *trahana*, *coliva*, and pulse, he thinks, go back to old Illyrian times. *Ibid.* pp. 915–921, F. NOPCSA argues that most of the names Fischer has found are taken from Halm and Jirečeks, and his thesis that names common to the peoples prove identity of race is far from proven. Nopcsa discusses 34 such words and concludes that in South Bosnia and North Albania the substratum of population was Thracian with a higher class of Illyrian stock. The name of the queen Teuta and the Albanian *fustanella* are perhaps of Celtic origin.

The Quinary Numeration in Civilized Languages.—In *R. Séém.* XIX, 1911, pp. 452–472, J. HALÉVY shows from a study of the names of the numerals in Semitic, Egyptian, Berber, Aryan, Turko-Finnish, and Finno-Ugrian, that traces of an original quinary system of counting, rather than a

decimal system, are found in all these languages. For instance, the numbers from five to ten are often etymologically doubles of the units from one to five, and the tens are plurals of these units.

Archaeology as a By-Product. — A pamphlet of instructions for the use of the German engineers of the Bagdad Railway, to enable them to utilize their opportunities for scientific observations not connected with their work, in the countries in which they are stationed, has been prepared by T. WIEGAND on the basis of a pamphlet made by G. Hirschfeld, more than twenty years ago for the engineers of the Angora section of the Anatolian Railway. Three sections, on geography, topography, and archaeology, have been issued and have already produced some results. Two others, on the geology and fauna of the region, are planned. (*Arch. Anz.* 1912, cols. 54-55.)

Practical Hints for making Squeezes. — In *Z. Ethn.* XLIII, 1911, pp. 541-545 (6 figs.), P. BORCHARDT gives practical hints for making papier-maché moulds or "squeezes" of deeply cut inscriptions, carvings, ornaments, etc. He refers to Hogarth's re-writing of Maudslay's article on 'Paper Moulding of Monuments' in *Hints to Travellers* of the Royal Geographical Society in London (9th ed. 1906), but suggests some improvements in the process. The best paper for the purpose is that sold by Gebrüder Ebart, Berlin, Mohrenstr. 13/14.

EGYPT

Prehistoric Slate Palettes. — In *Ann. Arch. Anthr.* IV, 1912, p. 140 (pl.), P. E. NEWBERRY publishes two prehistoric slate palettes purchased by him in Luxor. On one, which measures 6 by $3\frac{1}{2}$ inches, is incised a harpoon on top of a pole; upon the other, which measures $9\frac{1}{4}$ by $5\frac{1}{2}$ inches, are incised three gazelles, a leopard, a dog, and two birds. No other example of a prehistoric palette with an incised scene is known.

Three Seal-cylinders from Memphis. — In *S. Bibl. Arch.* XXXIII, 1911, pp. 259-260 (pl.), A. H. SAYCE publishes three seal-cylinders said to have been found together at Memphis. No. 1 is a large cylinder of steatite (?) of archaic character. In the upper zone is the familiar Hittite and North Syrian representation of two figures seated on either side of a table on which bread and wine are placed. No. 2 is of later date and of more careful workmanship, and belongs to the age of the Cappadocian cuneiform tablets found at Kara Eyuk. No. 3 is a small cylinder of carnelian and belongs to the common Babylonian class of seals representing the two solar deities, Samas (Utu) and Á. The age of this class of cylinders ranges from 2000 to 1500 B.C.

Sale of a House. — In *Sitzb. Sächs. Ges.* 1911, No. 6, pp. 135-150 (pl.), K. SETHE publishes an inscription found near the valley temple of the pyramid of Chephren at Gizeh in 1910. The sale of a house in the time of the Old Kingdom (fifth or sixth dynasty) is recorded. A bed seems to be regarded as a permanent fixture in the house.

The Reign of Amenhetep II. — In *S. Bibl. Arch.* XXXIV, 1912, pp. 107-108, H. R. HALL attacks the theory that the reign of Amenhetep II was mainly contemporaneous with that of his father and that he died after having three years of sole reign in 1447 B.C. He shows that there is no trace of any such co-regency in the inscriptions and that the inscription of Amen-

emheb distinctly speaks of Amenhetep succeeding his father as a new king on the throne.

The Egyptian Mastaba-grave.—In *Z. Morgenl. Ges.* LXV, 1911, pp. 771-780, G. ROEDER traces the history of the development of the Egyptian mastaba, its decoration, and its ritual, from the earliest times down to the abandonment of this architectural type by the Egyptians.

Egyptian Religion.—In *Arch. Rel.* XV, 1912, pp. 59-98, G. ROEDER publishes a general survey of the religion of ancient Egypt.

The Proverbs of Ahikar in the Papyri from Elephantine.—The story of Ahikar in the first part of the newly found Elephantine papyrus is easy to translate, but the proverbs and fables in the second part present extraordinary difficulties to the philologist. In *Or. Lit.* XIV, 1911, cols. 529-540, H. GRIMME offers suggestions for the improvement of the translation of eighteen of these proverbs. (See also A. J. Wensinck, *Or. Lit.* XV, 1912, cols. 49-54; J. Halévy, *R. Séém.* XX, 1912, pp. 37-78; and F. Nau, *R. Bibl.* XIX, 1912, pp. 68-79.)

The Egyptian Personal Names in the Papyri from Elephantine.—In *Or. Lit.* XV, 1912, cols. 1-10, W. SPIEGELBERG points out the Egyptian originals of twenty-four names that are reproduced in Aramaic letters in the papyri from Elephantine.

Ashima-bethel, Anath-bethel, and Herem-bethel in the Papyri of Elephantine.—In *Z. Alttest. Wiss.* XXXII, 1912, pp. 139-145, J. N. EPSTEIN claims that Ashima-bethel, Anath-bethel, and Herem-bethel are not names of gods but of human personages. Yahu, who is mentioned in connection with them, is not Yahweh, but is the personal name Jehu. The appositive *elaha* with Herem-bethel does not mean "god" but "ruler," like "*elohim*" in the Old Testament. Accordingly, he finds no evidence of polytheism in the Jewish community at Elephantine. For the contrary view, according to which Ashima-bethel and Anath-bethel were goddesses who formed a triad with Yahu at Elephantine, see H. Grimme in *Or. Lit.* XV, 1912, col. 11. (See also J. Halévy in *R. Séém.* XX, 1912, pp. 31-37.)

The Assuan Papyri and the Grave-goods of Gezer.—In *Pal. Ex. Fund.* XLIV, 1912, pp. 30-35, E. J. PILCHER calls attention to a curious parallelism between the lists of goods in the Assuan papyri and the contents of the group of graves described by R. A. S. Macalister in *The Excavation of Gezer*, Vol. I, p. 289, and *Pal. Ex. Fund.*, 1905, p. 318, and 1907, p. 197. If Mibtah-Yah of Assuan had been buried with her bridal gifts and dowry, her tomb would have yielded to the modern explorer a series of objects almost identical with those found in the "Philistine" graves of Gezer. This fact seems to indicate that the two gems found in the tomb at Gezer belong to a period not far removed from the date of the Assuan papyri.

The Passover Papyrus from Elephantine.—In *J. Bib. Lit.* XXXI, 1912, pp. 1-33, W. R. ARNOLD discusses the papyrus No. 6 in Sachau's collection, and concludes that this papyrus shows an attempt to impose upon the Jews of Egypt the observance of the Feast of Unleavened Bread, not in the old Israelitish form of J or E, or even of the expanded D, but in the form prescribed by the priestly legislation. It is distinctly the post-exilic Jewish observance which is here enjoined. Whether the Jews of Elephantine had retained the old Canaanitish institution in a looser form since the days of Psammeticus II, a hundred and seventy years before, we cannot

tell. Probably they had not. For the history of Old Testament literature it is to be noted that this papyrus affords the first conclusive evidence that the Holiness Code, at all events, had been composed before 419 B.C.

An Aramaic Ostrakon from Elephantine. — In *S. Bibl. Arch.* XXXIV, 1912, pp. 17–23, S. DAICHES discusses the Aramaic ostrakon published by Sayce, *S. Bibl. Arch.* XXIII, 1911, pp. 183–184, and reaches the conclusion that it refutes the theory of Sachau that the Passover was first introduced among the Jews of Elephantine in the reign of Darius II, and the theory of Steuernagel that the Feast of Unleavened Bread, as distinct from the Passover, was first introduced into the Jewish community after the promulgation of the Priestly Code in 445 B.C. (See also J. Halévy, *R. Sémi.* XIX, 1911, pp. 473–497.)

Find of Coins in Theadelphia. — In the ruins of a house in Batu Harit (Theadelphia), in the Fayum, which must have been inhabited till the early decades of the fourth century A.D., and then abandoned, were found in 1902 three dishes, each filled with coins. The first contained 20 Alexandrian bronzes, ranging in date from 52 B.C. to 235 A.D.; the second, 33 Alexandrian billon coins of about 270–300 A.D.; and the third, 172 *folles* of Diocletian and his immediate successors (296–315 A.D.). All are now described at length by KURT REGLING, who adds some observations on the indications afforded by the find as a whole, and especially on the *folles*-coinage. (*Z. Num.* XXIX, 1912, pp. 112–138; fig.)

Find of Alexandrian Coins in London. — In the autumn of 1908 some workmen excavating for the foundations of a house in Fetter Lane, E.C., dug up an earthenware pot containing 46 coins of billon and copper struck at Alexandria. The dates extend over the long period from Nero to Carinus. A list is given by F. D. RINGROSE in *Num. Chron.* 1911, pp. 357–358.

Metrology of the Coinage of the Ptolemies. — It is generally believed that in the coinage of the Ptolemies the drachma of copper was of the same weight as that of silver, and that the relation of value between the two metals was 1:120. On the other hand, the papyri, and especially the *Teb-tunis Papyri I* (1902), violently contradict this conclusion, and show the relation oscillating all the way between 1:500 and 1:375. The question is now considered anew by G. DATTARI, who reaches the conclusions that (1) the drachma of copper of which the papyri speak had a value and weight of gr. 0.5685; (2) the relation of value of the two metals depended upon the larger or smaller amount contained in the coins (drachms, didrachms, and tetra-drachms); (3) from about 270 B.C. to the Roman conquest the nominals of bronze were based upon the weight standard partly of the *deben*, and partly of the Babylonian talent. (*R. Ital. Num.* XXV, 1912, pp. 11–34; pl.)

The J. P. Morgan Collection of Coptic Manuscripts. — In *J. Bib. Lit.* XXXI, 1912, pp. 54–57, H. HYVERNAT describes the collection that Mr. J. P. Morgan has just received from Paris of the most complete, and, from the point of view of ancient Christian art and literature, the most valuable collection of Coptic manuscripts as yet known. It consists of fifty volumes, some of which contain as many as nine or ten different treatises. Many of the manuscripts are dated from the first half of the ninth to the latter half of the tenth century. They are the oldest dated Coptic manuscripts yet found. The collection is rich in Biblical manuscripts. The apocryphal literature holds also a prominent place. Most of these documents are couched in the Sahidic dialect.

BABYLONIA AND ASSYRIA

Early Babylonian History.—In *Exp. Times*, XXIII, 1912, pp. 305-309, T. G. PINCHES discusses the document just published by Father Scheil, *C. R. Acad. Insc.* 1911, p. 606 (*A.J.A.* XVI, pp. 437 f.) which gives a list of the dynasties in power in Babylon before 2500 B.C. This contains an entirely new dynasty, that of Opis, which preceded the dynasty of Kis, which in its turn was followed by the dynasty of Erech and then of Agade. See also F. E. PEISER in *Or. Lit.* XIV, 1912, col. 108, who attempts to combine these new data with those already known concerning these kings and the kings who followed the dynasty of Erech; and J. Halévy in *R. Séém.* XX, 1912, pp. 97-101.

Notes on Babylonian History.—In *S. Bibl. Arch.* XXXIV, 1912, pp. 23-26, C. H. W. JOHNS discusses the dynasty of Kiš, the Mitanni people in old Babylonian inscriptions, intercalary months, and the kings of the eighth dynasty. The fourteen years of Nabonassar in the Canon are confirmed by tablets of his reign. His predecessor Nabû-šum-iškun, is known to have reigned at least thirteen years and the name of the eighteenth king of the dynasty is established as Nabû-mukin-zêr.

Fixed Points in the Older Babylonian Chronology.—In *Or. Lit.* XV, 1912, cols. 104-108, E. DITTRICH holds that the well-known date for Naram-sin given by Nabuna'id as 3200 years before his own time does not rest upon knowledge of official lists of kings but upon mention of some astronomical fact in an inscription of Naram-sin which was calculated by the astronomers of Nabuna'id's day. This was probably a phenomenon connected with the precession of the equinoxes. The fact of precession was known to the ancient Babylonians, but the period was wrongly calculated by them. In consequence of this they estimated the date of Naram-sin as 3200 years before Nabuna'id, whereas, in reality, according to modern calculation, he reigned about 2300 years before Nabuna'id. By correcting the calculation of the precession of the equinoxes we obtain 2800 B.C. as the true date of Naram-sin, which agrees with modern calculations based on the list of kings. A further astronomical datum may perhaps be found in the Code of Hammurabi. In his curses upon those who may change his Code, Hammurabi mentions darkening of the sun, which seems to indicate that he had experienced a total eclipse. In this case it may be possible from the calculation of this eclipse to determine more precisely the date of Hammurabi.

The Reign of Rîm-Sin and the Conquest of Isin.—In *S. Bibl. Arch.* XXXIV, 1912, pp. 6-16 and pp. 41-51, W. T. PILTER gathers all the known inscriptions of Rîm-Sin, king of Larsa, and attempts to extract from them the history of this monarch. He holds that Rîm-Sin is not to be identified with Eri-Aku, or Arad-Sin, but that he was a younger brother of the latter, and succeeded him on the throne of Larsa. His conquest of Isin was identical with the conquest of Isin by Sin-muballit. The two monarchs united in this conquest. Rîm-Sin is to be identified with the Arioeh of Genesis 14, and various theories are proposed as to the way in which his name could have undergone this transformation in Hebrew.

An Early Babylonian Inscription.—In the *Museum Journal* of the University of Pennsylvania, III, 1912, pp. 4-6 (fig.), G. A. BARTON pub-

lishes a very old Babylonian stone tablet now in the museum of the University of Pennsylvania (Fig. 1). It is $2\frac{1}{8}$ inches long, $2\frac{1}{4}$ inches wide, and $\frac{3}{4}$ of an inch thick and records the means taken to rid various tracts of land of locusts and caterpillars. It is one of the earliest Babylonian inscriptions known.

Tablets from Kiš. — In *S. Bibl. Arch.* XXXIII, 1911, pp. 231-242 (7 pls.), S. LANGDON continues the publication of tablets of the Manana-Yapium dynasty of Kiš begun in a previous number of the same journal. He gives in the original cuneiform text, in transcription and translation, eighteen tablets containing contracts referring to loans of money and grain and sales of land dating from the reigns of Manana, Yapium, and kings of the first dynasty of Babylon.

A Tablet of Prayers from the Nippur Library. — In *S. Bibl. Arch.* XXXIV, 1912, pp. 75-79, S. LANGDON translates a Babylonian psalm recently published by D. W. Myhrman, in *Texts from the Museum of the University of Pennsylvania*. This can be completely restored from K. 143 = Craig, *R. T.* II, 6-7. The script appears to be the hieratic employed in the period of Samsuiluna, and consequently affords evidence for dating the originals of the Ašurbanipal library in the age of the first dynasty. It is an interesting specimen of an ancient Babylonian penitential psalm.

A New Inscription from Zenjirli. — In *Or. Lit.* XIV, 1911, cols. 540-545, F. E. PEISER translates and discusses the ancient Aramaic inscription from Zenjirli, discovered by Luschan in 1902, and recently published in Vol. IV of the *Reports of the Excavations at Zenjirli*. The inscription mentions Gabbaru, king of Ya'udi, and his son Belpoel; and states that the latter adopted Hayā'i as his brother, and Kilammû, the son of Hayā'i, as his son. Kilammû with the help of the Assyrians maintained himself on the throne of Ya'udi in opposition to the kingdom of Gurgum. The date of the inscription is determined by the facts that in 859 B.C. Shalmaneser mentions Hayā'i, the son of Gabbaru, in a coalition that fought against him, and that in 854 B.C. Hayā'i paid tribute to Shalmaneser. Kilammû's appeal to Assyria must accordingly have fallen in the period 849-841 B.C. (See also J. Halévy, *R. Sév.* XX, 1912, pp. 19-30; E. Littmann, *Sitzb. Berl. Akad.* XLV, 16 November, 1911; and M. J. Lagrange, *R. Bibl.* XIX, 1912, pp. 253-259.)

Baal-Khammon. — In *S. Bibl. Arch.* XXXIV, 1912, p. 27, A. H. SAYCE calls attention to an inscription from Zenjirli in which Baal-Zemer and Baal-Khaman are invoked. Baal-Zemer is obviously the Baal of the city of Northern Phoenicia, called Zumur in the Tel el-Amarna tablets, Zemar in Genesis 10: 18; and Baal-Khaman must, therefore, be the Baal of Amanus, written Khamanu in Assyrian. The name Baal-Khammon found in Punic inscriptions is thus cleared up at last and turns out to have nothing to do with "sun-pillars." (See also F. E. Peiser, *Or. Lit.* XIV, 1911, col. 545.)

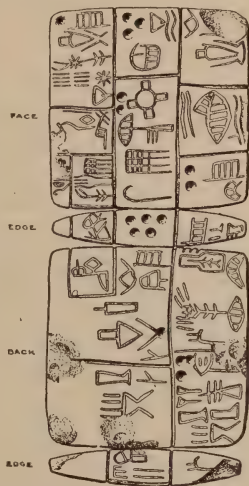


FIGURE 1. — BABYLONIAN TABLET.

A Minaean Inscription. — In *R. Sémi.* XX, 1912, pp. 79-80, J. SCHIFFER publishes a Minaean inscription from Madâ' in Salih, now in the museum of the Cinquantenaire at Brussels. It contains an account of a sacrifice offered in honor of the god Yašrabêl of Garbat.

A Conjectural Interpretation of Cuneiform Texts, V, 81-7-27, 49 and 50. — The tablet *Cuneiform Texts*, V, 81-7-27, 49 and 50, appeared in 1898, but no interpretation has yet been given beyond the more or less generally accepted opinions that the fragment is part of one of the so-called "practice-tablets." In *J.A.O.S.* XXXII, 1912, pp. 103-114 (2 figs.), Miss E. S. OGDEN suggests that the fragment may be part of an Elamitic-Babylonian syllabary in which the Elamitic equivalents are given under a Babylonian or Neo-Babylonian denominative usually to be found at the left of each case.

Contracts from Larsa. — In *S. Bibl. Arch.* XXXIV, 1912, pp. 109-113 (4 pls.), S. LANGDON publishes ten contract-tablets from Larsa recently acquired by the Ashmolean Museum.

A Skull with Magical Inscription. — In the *Museum Journal* of the University of Pennsylvania, II, 1911, pp. 58-60, J. A. MONTGOMERY describes a skull from Nippur upon which is engraved a much-worn magical text and some names. The inscription was apparently similar to the magical texts on bowls found at Nippur.

The Land of Nu-si-si. — In *Or. Lit.* XV, 1912, cols. 59-60, W. J. CHAPMAN maintains that the Land of Nu-si-si mentioned in the inscriptions of Esarhaddon in connection with Cyprus and Ionia is an abbreviation for Peloponnesus.

The Name of Cyprus in the Assyrian Inscriptions. — In *S. Bibl. Arch.* XXXIV, 1912, pp. 26-27, A. H. SAYCE discusses an inscription of Esarhaddon which shows that the Assyrian pronunciation of the name of Cyprus was Ya-da-na-na. This name occurs in Ezekiel 29:19 in connection with Yawan, that is, the Ionians.

Babylonian and Assyrian Religion. — In *Arch. Rel.* XV, 1912, pp. 203-241, C. BEZOLD discusses the contributions to the study of Babylonian and Assyrian religion since 1906.

Babylonian Legends. — In *J.A.O.S.* XXXII, 1912, pp. 21-33, F. A. VANDERBURGH discusses two tablets published in *C.T.* XV, pls. 1-6. One is addressed to the goddess Mama, and in it the poet says that her song is "sweeter than honey and wine, sweeter than sprouts and herbs, superior indeed to pure cream" (compare Psalm 19:11). The other describes the anger of the god Bêl with the goddess Ishtar because she is with child by her brother Shamash.

Some Difficult Passages in the Cuneiform Account of the Deluge. — In *J.A.O.S.* XXXII, 1912, pp. 1-17, P. HAUPT subjects the Babylonian deluge narrative to a new critical investigation and proposes a number of new translations of difficult passages.

The Emblem of the Sun-god. — In *Or. Lit.* XV, 1912, cols. 149-151, B. LANDSBERGER shows that the peculiar weapon that the sun-god holds in old Babylonian representations is a saw, and that the Assyrian name for this is *šašuru*. How the sun-god happens to carry a saw as his weapon is obscure; perhaps it is connected with his judicial attributes of determining and executing justice.

The Gilgamesh-Epic and the Song of Songs.—In *Or. Lit.* XV, 1912, cols. 60–62, S. DAICHES points out that the passage in the Gilgamesh-Epic in which the goddess Ishtar offers the hero Gilgamesh her love (Tablet VI, line 7 ff.) bears a striking resemblance to passages in the Hebrew Song of Songs.

The Temples of Babylon and Borsippa.—In *Z. Alttest. Wiss.* XXXII, 1912, pp. 65–68, A. GUSTAVS gathers up the materials concerning the forms of worship in the temples of Babylon that were to be found in the recent work of Koldewey on *The Temples of Babylon and Borsippa*.

Two Ancient Eclipses.—In *S. Bibl. Arch.* XXXIV, 1912, pp. 53–66 (pl.), E. WESSON discusses an eclipse of the sun reported in the reign of Esar-haddon, in which the sun was partially obscured at Nineveh on the 28th day of the month Nisan. This he calculates to have occurred in the year 648 B.C. Another tablet records a total solar eclipse which occurred in the reign of Burna-buriash in the month Nisan, which was preceded two weeks earlier by a lunar eclipse. The only eclipse which satisfies the requirements occurred in the year 1362 B.C.

Babylonian Weights.—In *Z. Morgenl. Ges.* LXV, 1911, pp. 625–696, F. H. WEISSBACH presents an elaborate investigation of the systems of weights that existed in the ancient Orient. He concludes that two scales were in use, which he names the “old” and the “new.” The talent consisting of 60 minae, the mina consisting of 60 shekels, and the shekel, were common to both scales, but the subdivisions of the shekel differed in the two scales. The weights of the talent, mina, and shekel varied according to three, or possibly four, systems, which bore to one another the ratios of 1, 2, 4, and perhaps 6, fifths. The light mina varied from 497 grammes in the time of Dungi, king of Ur (ca. 2300 B.C.), to 500.2 grammes in the time of Darius I. The heavy mina weighed twice this amount, and the doubly heavy mina four times this amount. The talent and the shekel in the respective systems varied accordingly.

A Primitive Affinity between Semitic and Sumerian Roots.—In *S. Bibl. Arch.* XXXIII, 1911, pp. 243–253, C. J. BALL holds that many trilateral Semitic roots have been derived from biliteral Sumerian roots by the insertion of a third consonant, and gives a list of Semitic roots in which the differentiation of biliteral roots has been effected by the addition of the letter *b*.

The Original Meaning of the Maššēbhôth.—In *Or. Lit.* XV, 1912, cols. 119–126, G. SELLIN discusses the recent investigation of the *maššēbhôth*, or “standing stones” of Semitic antiquity, and comes to the conclusion that no one theory is sufficient to explain their meaning. Some of them were used as dwelling-places of deities, others were phallic emblems, others exhibit the Babylonian idea of the two peaks of the earth-mountain, and still others are nothing more than memorials. Here as elsewhere in primitive religion the origins of customs are not simple but very complex.

The Source whence the Assyrians derived Silver.—In *Or. Lit.* XV, 1912, cols. 145–149, B. MEISSNER cites a passage in a newly discovered inscription of Shalmaneser III in which he mentions “the mountains of Tunni, the mountains of silver.” The mountains of Tunni lay beyond Kûe and Tabal, and, therefore, are probably the Taurus range.

SYRIA AND PALESTINE

Ben-Hadad. — In *Exp. Times*, XXIII, 1912, pp. 237-238, R. W. ROGERS accepts the identification of Ben-Hadad of 2 Kings 8:7-15 with Pir-idri of Shalmaneser's inscriptions made by S. Langdon, *Exp. Times*, XXIII, 1911, pp. 68, 69, and calls attention to the fact that this Shalmaneser is not Shalmaneser II, as he is commonly called, but is really the third Syrian king of that name. *Ibid.* pp. 282-284, D. D. LUCKENBILL attacks Langdon's identification of Hebrew Ben-Hadad with the Assyrian Pir-idri.

Adad-nirâri IV, the "Helper of Israel." — In *Or. Lit.* XV, 1912, col. 63, O. SCHROEDER maintains that the "Helper of Israel" mentioned in 2 Kings 13:5, 14:26 was Adad-nirâri IV, who broke the power of Damascus and thus brought relief to Israel from the Syrian oppression. The term "helper" is a play upon the second element of the king's name, *nirâri*, "my helper."

Hittite Inscriptions. — In *S. Bibl. Arch.* XXXIII, 1911, pp. 227-231 (fig.), A. H. SAYCE attempts a translation of the Hittite inscription built into the wall of the el-Qiân mosque at Aleppo. In the inscription from Restân he proposes to read as the name of the city Yannamme, and identifies it with the Yenoam of the Egyptian inscriptions and of the Tel el-Amarna letters, which lay to the north of Damascus. In this case ancient Yenoam will be identical with modern Restân. He proposes also readings of the royal names on the Lion of Mer'ash.

Contributions to the History of the Aegean Civilization from Talmudic Sources. — In *Memnon*, V, 1911, pp. 206-211 (pl.), S. FUNK claims that the Talmud contains a number of ancient traditions that date from the times of the Aegean civilization. These refer to the "provinces of the sea" and "cities of the sea," and to imported wares, such as costly woods, stuffs, garments, and clay-stamps.

The New Theory of Calvary. — In *Pal. Ex. Fund*, Jan., 1912, pp. 21-30, A. W. CRAWLEY-BOEVEY summarizes the arguments which, in his opinion, prove that the rocky knoll above the so-called Grotto of Jeremiah is the real site of the crucifixion.

The Topography of Rachel's Tomb. — In *Pal. Ex. Fund*, April, 1912, pp. 74-82 (2 pls.), R. A. S. MACALISTER shows that the so-called Tomb of Rachel was at or near Ramah. At the foot of the hill, on which stands *Er-Ram*, a little above the head of the *Wâdy Farah*, close to *Hizmeh*, exactly on the spot where all the lines of evidence for the location of Rachel's Tomb seem to converge, stands that extraordinary group of prehistoric monuments known as the *Kabûr el-Beni Isra'in*. They are like walls of dry stone masonry, about 100 feet long and 15 feet broad, and about 4 to 6 feet high. These mysterious monuments might well give rise to traditions of ancient men and women of renown; they might well be associated in the popular memory with the patriarchs; and the identification of these monuments with the tradition of Rachel's Sepulchre, first proposed by Clermont-Ganneau, is the most reasonable and probable theory that can be put forward about them. They are probably not so old as the work of the Dolmen-builders, but there can be little question that they are older than the Israelite immigration.

The Funerary Eagle of the Syrians. — In *R. Hist. Rel.* LXIII, 1911,

pp. 208-214, F. CUMONT argues in support of his theory of the origin of the funerary eagle of the Syrians (see *A.J.A.* XV, p. 542), as against an Egyptian origin. He admits that Egyptian religion may have had some influence on the Semitic belief, but the Etana myth still seems to him to be the most probable source.

Jupiter Heliopolitanus.—In *B. Soc. Ant. Fr.* 1911, pp. 181-187, A. HERON DE VILLEFOSSE discusses a letter from S. Ronzevalle in regard to the statue of Jupiter Heliopolitanus found at Sakheré, a few hours northeast of Palmyra and now at Aleppo. The figure is not exactly like any previously known. The dedication reads I . O . M . H . SEX . RASIVS . PROCVLVS . PRAEF . COH . II . TRAC . SYR . which he interprets: *I(ovi) o(ptimo) m(aximo) H(eliopolitano) Sex(tus) Rasius Proculus praef(ectus) coh(ortis) II T(h)rac(um) Syr(iacae)*.

Beelzebul.—In *J. Bib. Lit.* XXXI, 1912, pp. 34-53, W. E. M. AITKEN discusses the name Beelzebul that occurs in the Synoptic Gospels, and shows that this spelling is correct rather than *Beelzebub*. In New Testament times the word *zebul* was used specifically of heaven. Inasmuch as in each of the important non-Jewish religions of the period one god held a preëminent place, and he a sky-god, and a foreign god was considered by the Jews to be a demon, the name Beelzebul, i.e. "Lord of Heaven," was properly applied to the chief of the demons.

The Canaanite Alphabet.—In *S. Bibl. Arch.* XXXIV, 1912, pp. 27-34, E. NAVILLE claims that the so-called Phoenician alphabet, wherever it came from, must have been at first a potsherd writing: a script for common use, for trade, business, and everyday life; and one may well fancy the Phoenicians, who were great tradesmen, having been, if not inventors, at least the first to have made a great use of it, to have diffused it among their neighbors, and by degrees to have applied it to any kind of document even religious or funerary. When we first find this alphabet it is not in its original form; the pictorial character is nearly gone, showing that the alphabet must have existed for centuries.

Weight Standards of Palestine.—During the last twenty years a number of small weights have been discovered in Palestine bearing the names *nešeph*, *payam*, and *beḳa'*. These are discussed by E. J. PILCHER in *S. Bibl. Arch.* XXXIV, 1912, pp. 114-118 (2 pls.). The average weight of the *nešeph* is about 156 grains Troy, which is $\frac{1}{30}$ of the Babylonian *mina*. The *payam* averages about 115 grains, and is thus equal to $\frac{2}{3}$ of a Persian silver *stater*, or $\frac{1}{3}$ of a double *stater*, which in the Persian period was the nearest equivalent of the old Hebrew *shekel*. The *beḳa'* averages about 97 grains, and is thus $\frac{1}{3}$ of the Egyptian double *kedet*, which in times of Egyptian occupation was also equated with the Hebrew *shekel*. The characters on these weights and their values show that they originated in the Persian period.

New Jewish Tetradrachm.—EDGAR ROGERS publishes a new variety of the tetradrachms of Simon Bar Cochab, and argues that all the coins of that name must be referred to the second Jewish revolt, of 132-135 A.D. (*Num. Chron.* 1911, pp. 205-208; fig.) A later note by him remarks that the coin had been obscurely published, and with mistakes, in 1781. (*Num. Chron.*, 1912, p. 111-112.)

Notes on Gaza Coins.—In *Pal. Ex. Fund*, April, 1912, pp. 98-100,

Archdeacon DOWLING discusses the coinage of Gaza in the fifth and fourth centuries, B.C. which consists of darics and smaller coins of Attic weight, and of various types. The swastika, or *Fylfot*, is constantly found as the distinguishing mint-mark of Gaza.

Laodicea in Phoenicia.—In *B.C.H.* XXXV, 1911, pp. 433-440, P. ROUSSEL proves by means of five inscriptions mentioning *Λαοδίκεια ἡ ἐν Φοινίκῃ* that this is a name used during a part of the second century B.C. for the city of Berytus.

ASIA MINOR

The District of Pergamon.—At the December (1911) meeting of the Berlin Archaeological Society, C. Schuchhardt spoke on the country adjacent to the city of Pergamon. The mouth of the Caicus was originally at Atarneus, north of the Kara Dag, but had changed to its present position, between Pitane and Elaea, before the time of Strabo, whose words have been misinterpreted by Doerpfeld. The sharply projecting cape between Myrina and Cyme is the old Cape Cane, the southern boundary of the Pergamene territory. Already in the time of Philetærus the whole district drained by the Caicus was held as belonging to Pergamon, and a chain of small, square forts or barracks may be traced on the surrounding hills. They are on the characteristic Hellenistic plan for such defences, with a keep or tower in the middle, which has come down into mediaeval and modern times in a form quite different from the Germanic refuge enclosure or inhabited fortress, which follows the lines of the hill and has an open court in the middle. (*Arch. Anz.* 1912, cols. 58-65; fig.)

A Sun-dial from Pergamon.—In *Ath. Mitt.* XXXVI, 1911, pp. 251-268 (5 figs.), A. REHM publishes a circular block of stone found in the excavations of 1907. Its upper surface is hollowed out into a hemisphere and engraved with a double system of lines for telling the time. A projection on one side shows that it was fastened into a wall. Rain-water was drained off by means of a hole in the bottom of the bowl.

Phrygia Epictetus.—In *Klio*, XI, 1911, pp. 393-414, J. SÖLCH discusses several problems in the topography of Phrygia Epictetus and concludes that the river Gallus is to be identified with the modern Mudurnu-tschai; that Modroi and Modrene were different names for the same place located at Mudurnu. The boundaries between Bithynia and Phrygia Epictetus were the Dumanitsch range and the watershed between the Göktsche-su and the Sangarius. The eastern boundaries of Phrygia Epictetus extended to the upper Mudurnu valley. Strabo's statement that in his time Phrygia Epictetus extended to Lake Ascania is an error.

Μήτηρ Στυνήνη.—The sanctuary of Meter on the river Pencalas near Aezani in Phrygia, mentioned by Pausanias (VIII, 4, 3, and X, 32, 3) and briefly described by Anderson (*B.S.A.* IV, 1897-1898, p. 55) is more fully discussed by T. WIEGAND in *Ath. Mitt.* XXXVI, 1911, pp. 302-307 (9 figs.). The cave is beneath a rocky ledge which slopes down to the river. Near by is an ancient stone bridge, still in use. The cave is closed towards the river by a free-standing rock and a wall built of large blocks with irregular jointing. The rock contains numerous niches for votive offerings. On the plateau above are two circular sacrificial pits, 5½ m. in diameter, faced with large blocks of breccia. The soil about them has been washed away so that their

tops are now high above the surface. About 200 m. to the northwest are the remains of a small Roman building with four arcades, which may have had a connection with the cult of Meter, though it is possible that it was a tomb.

A Study of Carian Inscriptions.—In *Klio*, XI, 1911, pp. 464-480, J. SUNDWALL presents a study of the characters in Carian inscriptions with a transliteration of Carian names.

GREECE

ARCHITECTURE

An Achæan House in Crete.—A house at the extreme southwest corner of the town of Gournia, belonging to the third and last period of occupation, is not quite correctly given on the plan in the large publication of 1908, but appears on closer examination to be of the megaron type, having a hall somewhat deeper than it is wide, entered through a shallower ante-room and with a corridor along one side separating it from a row of small chambers (Fig. 2). This differs entirely from the native Cretan style of building, but is like that of the palaces at Mycenæ and Tiryns, and the palace of the latest pre-Dorian settlement at Phylakopi in Melos. It also corresponds entirely with the pictures that we get of Homeric houses. Contrary to D. Mackenzie's views, F. OELMANN considers that the invaders from the mainland of Greece who brought this new type of house to Melos and Crete were the same Achæans who carried the Arcadian dialect to Cyprus and the southwest coasts of Asia Minor about 1400 B.C. That is, they were Greeks, with a civilization originating in the north, although it appeared at Mycenæ and other Greek sites in a form much affected by Cretan trade influences. He would find in Greece also the origin of the fiddle-bow brooch and the long, sharp-edged sword for cutting, not stabbing, and in Asia Minor, that of the horned helmet and the round shield. The northern origin of the megaron house is further attested by the discovery, not far from Berlin of similar house plans, which belong in one instance to the time of Augustus and in another to the late Bronze Age, not far removed in time from Mycenæ and Tiryns. (*Jb. Arch. I.* XXVII, 1912, pp. 38-51; 5 figs.)

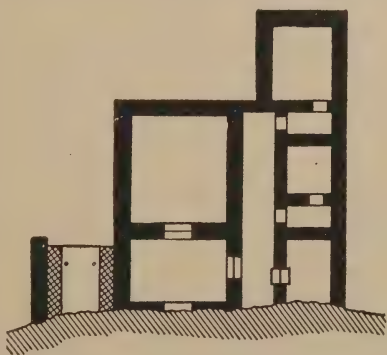


FIGURE 2.—HOUSE AT GOURNIA.

The Origin of the Ionic Capital.—The development of the Ionic capital from an originally naturalistic representation of the date palm is illustrated, according to F. v. Luschan, by the Neandria capital discovered by R. Koldewey and by a relief from Laktchegeusu. The latter needs to be looked at in the light of the highly conventionalized Oriental forms of the date palm, one of which is the Assyrian Tree of Life, with its fructifying demons. (*Arch. Anz.* 1912, cols. 55-57.)

The Hypaethral Temple.—In *R. Arch.* XIX, 1912, pp. 365-389, is the first part of a discussion of the hypaethral temple by ROBERT DE LAUNAY. The statements of Vitruvius (III, 1, 8) are explicit. The hypaethral temple was exceptionally large, had a cella without a roof, and had within two two-storied porticoes, which were entered by doors (valvae) in the two fronts of the temple. The hypaethral temple was neither a mere hypaethral *area* nor a temple with an "eye" or hole in the roof.

The Large Tholos at Delphi.—In *Klio*, XII, 1912, pp. 179-218 (42 figs.), H. POMTOW publishes an elaborate study of the large marble tholos in the precinct of Athena Pronaia at Delphi with restorations of the exterior and interior.

The Attic in Delian Buildings.—In *C. R. Acad. Insc.* 1912, pp. 105-115 (3 figs), R. VALLOIS points out, as a result of his study of buildings at Delos, that in Hellenistic times the Greeks frequently used above the principal order in colonnades and other buildings a lower order or *attic* in which the supports were rectangular pillars. These pillars were either oblong or square in section, the latter type being later and less frequent than the other at Delos.

The Fountain of Lycosura.—In *Ἀρχ. Ἑφ.* 1911, pp. 200-206 (7 figs.), A. K. ORLANDOS describes in detail, with ground plan, section, and restoration, the Hellenistic fountain or reservoir, extensively repaired in Roman times, that supplied water for the sanctuary at Lycosura. It is provided with a large, shallow settling tank.

SCULPTURE

The Aeginetan Pediments.—In *Sitzb. Mün. Akad.* 1912, No. 5, PAUL WOLTERS ('Aeginetische Beiträge,' I-III; 54 pp.; pl.; 6 figs.) discusses Martin Wagner's reconstruction of the western pediment of the temple of Aphaea at Aegina, drawings of which were preserved at Würzburg, and criticises sharply Groote's discussion of the Aeginetan pediments. (M. von Groote, *Aegineten und Archäologen. Eine Kritik*, Strassburg, 1912.) He discusses also Haller's and Cockerell's arrangement of the figures, as well as that proposed by Mackenzie (*B.S.A.* XV, 1908-1909; *A.J.A.* XV, 1911, p. 227 f.). He concludes that of the two fallen figures, without helmet or shield, one (N) belongs in the right, the other (A) in the left half of the pediment. The falling, armed figure (E) and the corresponding figure which Furtwängler deduced from a hand with a glove (fragment in Munich) are to be grouped with the crouching warriors B and M in the corners. The fallen figures should then occupy the places nearer the middle, where Furtwängler put the falling warriors.

The Sculptures of the Parthenon.—In *Jb. Kl. Alt.* XXIX, 1912, pp. 241-266 (5 pls.), F. STUDNICZKA discusses A. H. Smith's *The Sculptures of the Parthenon* (London, 1910), giving in detail his reasons for differing from him in a number of his conclusions.

A Supposed Parthenon Fragment at Stockholm.—The identification of a much restored female head at Stockholm by J. SIX (*J.H.S.* XXXI, 1911, pp. 65 ff.; *A.J.A.* XV, p. 546) as a Parthenon fragment is refuted in *Röm. Mitt.* XXVII, 1916, pp. 94-96, by L. KJELLBERG.

The Diadumenus of Polyclitus.—That the Diadumenus of Polyclitus represented Apollo as an athlete is maintained by ADA MAVIGLIA in

Röm. Mitt. XXVII, 1912, pp. 37-50, basing the identification upon literary evidence.

Two Pieces of Sculpture. — In *Ausonia*, V, 1911, pp. 109-117 (5 figs.), W. AMELUNG notes that the colossal bust published by him (*ibid.* III, pp. 117 ff.) and attributed to Bryaxis, came from the precinct of Diana at Nemi, and is now in England. He also discusses a relief with three standing female figures in Ravenna.

A Winged Athena. — In *Ausonia*, V, 1911, pp. 69-108 (pl.; 26 figs.), L. SAVIGNONI shows that the winged Athena found at Ostia (*Not. Scav.* 1910, pp. 229-231; see above pp. 490-494) is a copy of imperial date of a fourth-century Greek original. A winged Athena was known in Ionic Greek art as early as the sixth century B.C. He adds a discussion of the date of the temple of Nike Apteros on the Acropolis; and shows that the statuette of Athena in the Museo Gregoriano supposed to be winged (Gerhard, *Ges. Akad. Abh.* p. 295, pl. XXXVIII, 1) has no wings.

Nemesis. — In *B.C.H.* XXXVI, 1912, pp. 248-274 (2 pls.; 2 figs.), P. PERDRIZET publishes two marble statuettes from Egypt, representing Nemesis winged, holding in her left hand a wheel resting on an altar, and in one example, resting her right foot upon the head of the ἵβριστης. He also identifies as Nemesis the figure on a Graeco-Egyptian relief which had been explained as a Byzantine representation of Kairos or Bios, and criticises adversely the theory of Amelung in regard to the influence of the Praxitelean style in Alexandria.

Statue of a Youth from Anticythera. — One of the less seriously injured of the marble statues from Anticythera serves as the basis for a discussion of the *Mercure Richelieu* of the Louvre and other statues of Hermes, athlete and portrait types, by G. LIPPOLD, *Jb. Arch. I.* XXVI, 1911, pp. 271-280 (12 figs.). The Anticythera statue serves to show whether the head and body belong together, in some cases.

Arcadian Hermae. — In *Ἀρχ. Ἐφ.* 1911, pp. 149-159 (13 figs.), K. A. RHOMAIOS publishes several *hermae* of a peculiar type, found in the region of Tegea. They are small, plain, rectangular shafts ending at the top in a pyramid, and bear the names of gods in the nominative, or genitive, or dative, case. They range in date from the fifth century B.C. to about 200 A.D. There are also multiple stelae of one block of stone representing several obelisks joined side to side. The writer regards them as survivals of the primitive ἀργοὶ λίθοι and pillars by which the gods were represented rather than "schematized" simplifications of statues of the gods.

Statues of Lycosura upon a Coin. — In *Ἀρχ. Ἐφ.* 1911, p. 193, V. LEONARDOS calls attention to a bronze coin found at Lycosura bearing on one side a representation of the four statues of the temple of Despoina at Lycosura and on the other the head of Julia Domna.

Iconography. — The various likenesses of Timotheus, son of Conon, are compared by J. SIX in *Röm. Mitt.* XXVII, 1912, pp. 67-82, who also treats of the portraits of Lysimache, priestess of Athena, and of Amastris, queen of Amastris, *ibid.* pp. 83-93 (3 pls.; 5 figs.).

Marbles from Delos in the Louvre. — In *B.C.H.* XXXV, 1911, pp. 288-349 (pl.; 5 figs.), E. MICHON discusses the fragmentary statue called the "Inopus," a statuette of a kneeling woman, a Roman grave stele, two cylindrical altars, two fragments of architectural decoration, and three in-

scriptions from Delos in the Louvre. The "Inopus" is not a fragment of a reclining figure, but of a standing figure wearing a himation over the left shoulder. The statue was made of several pieces. The discussion of the other marbles deals mainly with the history of their acquisition.

Collection of F. W. von Bissing. — In *Ath. Mitt.* XXXVII, 1912, pp. 69-72 (pl.), F. W. VON BISSING continues the publication of antiquities in his collection. (1) A right arm and hand holding a discus and a left leg with wings attached to the foot, modelled in plaster, are fragments from the matrix of a mould from which a bronze statuette of Hermes Discobolus was cast. From Egypt; Alexandrian. (2) Two small terra-cotta female heads

wearing peaked hoods were acquired in Naucratis and are dated about 450 B.C. (3) A terra-cotta female head of Hellenistic date shows an unusual arrangement of the hair, resembling that of the granite bust in Cairo (*Denkmäler Ägypt. Skulptur*, text to Plate 112).

Tunisian Supplement to the Répertoire de la Statuaire. — In *R. Arch.* XVIII, 1911, pp. 397-400 (24 figs.), A. MERLIN contributes cuts of twenty-four statues from Tunis as a supplement to the *Répertoire de la statuaire grecque et romaine*. They are for the most part fragmentary and variations of well-known types.

Attic Grave Reliefs in Copenhagen. — In *Ausonia*, V, 1911, pp. 1-12 (2 pls.; fig.), A. HEKLER publishes three Attic grave reliefs of fourth-century date in the museum at Copenhagen. 1. Upon one is a seated lady before whom stands her maid holding some object which cannot now be identified. 2. A young girl is standing before a seated woman. Above is the inscription 'Ηδεΐα Δυσικλήους θυγατήρ 'Αθωνέως (*sic*) | Φαν-



FIGURE 3. — GREEK SEPULCHRAL STELE.

ύλλα 'Αριστολείδου 'Αθμονέως. 3. The third relief is a fragment consisting of the torso of a bearded warrior wearing helmet and breastplate (Fig. 3). It has great beauty.

The Caledonian Hunt in a Relief near Preveza. — In *'Αρχ. Έφ.* 1911, pp. 186-191 (fig.), F. VERSAKES publishes a sarcophagus relief from ancient Nicopolis, near Preveza, representing the hunt of the Caledonian boar. It

is Roman work in imitation of the school of Scopas and of great importance for the reconstruction of the eastern pediment of the temple of Athena Alea at Tegea, of which it seems to be a copy, as the figures correspond closely to the description of the pediment by Pausanias.

A Grave Stele from Zaverda. — In *Ἀρχ. Ἐφ.* 1911, pp. 191–192 (fig.) F. VERSAKES publishes a grave stele of the third century B.C. found at Zaverda, near Preveza, Albania. Below a gable and triglyph frieze, represented in low relief, stand two sirens holding suspended between them a tablet on which is inscribed in raised letters the name of the deceased in the vocative — *Σαράμα* — in connection with *Χαίρε*, cut just below it.

The Thracian Horseman. — In *R. Ét. Anc.* XIV, 1912, pp. 137–166, G. SEURE publishes certain Thracian reliefs upon which appears the mounted god sometimes worshipped under the name *Ἡρως*, accompanied by two or more female figures. The latter usually carry urns from which water flows, and are to be regarded as Nymphs, perhaps also known as *Ἡραι*. The god is usually represented just after the chase, and sometimes has an attendant who is grasping his horse's tail. In *Arch. Rel.* XV, 1912, pp. 153–161 (8 figs.), G. KAZAROW describes eight representations of the "Thracian horseman" found in Bulgaria. Six of these had previously been published by Dobrusky (*Transactions of the National Museum at Sofia*, 1907, pp. 140 ff.). He offers no interpretation of the figures.

VASES AND PAINTING

Minoan Rhytons. — The silver and bronze bull's head from a shaft grave at Mycenae is published from new photographs and with a detailed description by G. KARO in *Jb. Arch. I.* XXVI, 1911, pp. 249–270 (3 pls.; 18 figs.). It is a Cretan work of about 1650–1550 B.C., between Middle and Late Minoan periods, and is of a very high degree of artistic skill, as is seen in the few places where the original surface is preserved. The two holes found at the top of the neck and in the under lip, together with the analogy of similar Cretan vessels of stone and pottery, prove that this was a rhyton. The same is true of the gold lion's head from Mycenae and the fragment of a stone lion's snout from Delphi, the last attesting the tradition of a Cnosian founding for the Delphic shrine. A long series of such two-holed vessels, of metal, stone, and clay, in the form of heads or figures of animals, and also in plain or rounded funnel shapes, the last including a restoration of the "Reaper" vase of Phaestus, is here traced from the beginning of Middle Minoan down to the end of Minoan times. The great variety in their size as well as material corresponds to a variety of purposes, for table use, for display, and for the service of the gods.

The Vase of Hagia Triada. — In *C. R. Acad. Insc.* 1912, pp. 83–93* (6 figs.), J. DÉCHELETTE, comparing the contents of certain Etruscan tombs, argues that the scene on the well-known steatite vase from Hagia Triada represents a sacrificial procession. The pronged objects carried by some of the men are ceremonial spits attached to axes. A bare-headed, long-haired priest leads the way followed by two bands of attendants with spits, while three singers and a sistrum player march between.

Cretan Vase Painting. — Dr. ERNST REISINGER undertook for his dissertation at Munich a study of the different styles of Cretan vase painting

based upon published material. This he has now reprinted. He discusses the different styles, and thinks he is justified in adopting a new classification. Thus he would make one class of Early Minoan II and III; and one class of Middle Minoan III and Late Minoan I. He also differs from Fimmen in some of his synchronistic comparisons. [*Kretische Vasenmalerei vom Kamares- bis zum Palast-Stil*. Von ERNST REISINGER. Leipzig und Berlin, 1912. Teubner. 54 pp.; 4 pls. 8vo. M. 3.]

Archaic Vases from Delos.—In *B.C.H.* XXXV, 1911, pp. 350-422 (80 figs.), F. POULSEN and C. DUGAS publish 88 vases and vase fragments of early styles found at Delos. The geometric pottery is classified as follows: (1) related to Euboean, (2) Rhenean, (3) Delian, (4) Euboean, (5) Proto-Melïan. The pottery showing orientalizing influence is divided into two classes,—(1) orientalizing Delian, (2) Melian.

The Axis of the Interior Medallion in Greek Cylices.—In *R. Arch.* XIX, 1912, pp. 60-83 (27 figs.), HENRI HOUSSAY discusses the obliquity of the axis of the interior medallion in Greek cylices and other Greek vases of similar shapes. The axis is very seldom either in a line connecting the centres of the handles or perpendicular to such a line. The painter held the vase obliquely with its foot and its edge resting on a table. To insure its steadiness, he let one handle also rest on the table. Then he painted the figures so that they were upright. As the handle rests with one end (not with the middle) on the table, the axis of the painting fails to coincide with either of the lines mentioned above. This explanation of the obliquity (and its limits) of the axis of the medallions applies to all cylices and the like, except those to which, on account of small size, lack of a foot, circular decoration, special positions of figures, or excessive restoration, it cannot be applied.

A Bowl by Pistozenus.—The scyphus signed by Pistozenus, which has been in the museum at Schwerin since 1870, is newly published, with photographs, drawings, and a very minute description, by J. MAYBAUM in *Jb. Arch. I.* XXVII, 1912, pp. 24-37 (4 pls.; fig.). The two scenes are Iphicles having a music lesson from Linus and the boy Heracles being escorted to his lesson by an old nurse. The character drawing, with the simple means in use in the period before 480, is extraordinarily effective, and this, together with the extreme care and delicacy with which every relevant detail is given, shows Pistozenus to have been among the best painters of the severe style.

Black-figured White Lecythi in Tarentum.—In *Boll. Arte*, V, 1911, pp. 419-433 (7 figs.), A. SORRENTINO publishes six black-figured Attic white lecythi found in the centre of Tarentum, and now in the museum of that town. They represent: (1) the contest of Ajax and Odysseus for the armor of Achilles, represented by a helmet on the ground; (2) the combat of Heracles and Cygnus, with which is published a similar lecythus in Syracuse having the same scene with the names of the figures added; (3) the battle of Athena and Enceladas; (4) the judgment of Paris; (5) the departure of a warrior, in style resembling the work of Execias; (6) dancing Sileni.

Greek Vases from Cumae.—Archaic Greek vases from the necropolis of Cumae are described and discussed by E. GABRICI, *Röm. Mitt.* XXVII, 1912, pp. 124-147 (4 pls.; 3 figs.). These are: (1) the cover of a pyxis with

scenes from the *Ilioupersis*; (2) a black-figured amphora with the Rape of Antiope.

Theseus at the Bottom of the Sea. — PAUL JACOBSTHAL has published a study of the Greek vases representing the descent of Theseus into the sea, showing that they do not go back to the painting of Micon as has been supposed. The early painters in representing the youthful hero took Heracles for their model as a comparison of the two proves. The Theseus scene on the Bologna crater goes back to an original of about 430 B.C. [*Theseus auf dem Meeresgrunde. Ein Beitrag zur Geschichte der griechischen Malerei. Von PAUL JACOBSTHAL. Leipzig, 1911. E. A. Seemann. 25 pp.; 6 pls. 8vo.*]

The Sacrifice at the Tomb of Patroclus. — In *Ausonia*, V, 1911, pp. 118–127 (pl.; 5 figs.), E. GALLI publishes a “Faliscan” stamnos, formerly in the possession of a dealer in Florence, upon one side of which is represented the sacrifice of Trojan prisoners at the tomb of Patroclus. He records seven other representations of this scene. On the other side of the vase is a satyr riding a panther, while a second satyr runs in front balancing an amphora. *Ibid.* pp. 128–145 (4 figs.), L. SAVIGNONI offers another interpretation for the draped figure behind the tomb; that is, that it is the shade of Patroclus; and argues that all the extant versions of this scene go back to a fifth-century Attic original.

Mycenaean Frescoes. — In *Ath. Mitt.* XXXVI, 1911, pp. 221–250 (4 pls.), G. RODENWALDT publishes a number of fragments of frescoes discovered by Schliemann at the time of his excavation of the shaft graves, and by Tsountas in his excavations on the acropolis of Mycenae in 1886 and 1892. Two fragments from Schliemann’s excavation, reproduced in colors, seem to be parts of one scene. The larger one shows three ladies seated in an open loggia, and evidently intent upon some spectacle. That this is the usual performance in the bull-ring is shown by the second fragment, containing part of the back of a large bull, painted white with black spots. The hand of the acrobat is visible against the light red background above. Fifteen fragments from the megaron at Mycenae give some idea of the elaborate battle scene with which its walls were adorned. The technique can be better studied in a number of fragments of a similar scene from the acropolis with the colors better preserved. These frescoes are contemporary with those from the earlier palace at Tiryns, and are to be dated somewhat later than the Cretan frescoes of the first Late Minoan period, with which they are closely connected in style.

Micon’s Painting of the Battle of Marathon. — Micon’s painting of the battle of Marathon in the Stoa Poikilé is discussed by B. SCHROEDER, *Jb. Arch. I.* XXVI, 1911, pp. 281–288 (5 figs.). With a number of vase pictures he shows that the action was probably represented as it would be seen by a person coming from Athens round the east foot of Pentelicus, with the Greeks at the left and the Persians retreating to their ships on the right. That Panaenus worked with Micon on this picture he thinks less likely than that he made another painting, following the same general design but showing a greater advance in depicting individual figures.

Σκιαγραφία. — In *Jb. Arch. I.* XXVII, 1912, pp. 19–23, R. SCHOENE rejects E. Pfuhl’s explanation of σκιαγραφία, the invention of Apollodoros, as perspective, and discusses the subject anew. Assuming that the correct

drawing, coloring, and shading of an object were understood by the artist, he could, in painting that was to be seen from a distance, such as theatre scenery, make it more effective by the juxtaposition of a few sharply distinct shades of a color than by a blending of a continuous scale of shades. Such a method, if applied to smaller painting and seen from close at hand, would give the effect of sketchiness; hence the later confusion in the use of the word.

INSCRIPTIONS

Miscellaneous Inscriptions.—In *Sitzb. Kais. Akad. der Wiss. in Wien*, 166, 1, 1911 (64 pp.; 2 pls.; map), A. WILHELM discusses eleven Greek inscriptions. 1. An epigram of Honestus (*B. C. H. XXVI*, p. 153) was in honor of Livia, as patroness of marriage. 2. The dedication of Philinus of Thespieae (*B. C. H. XXVI*, p. 302) is restored. 3. The inscribed column at Lebadeia (*B. C. H. XXVI*, p. 570) was a boundary stone of the Ἑλικωνιάς γὰ. 4. The decree of the Troezenians in honor of Zenodotus copied by Cyriacus of Ancona is restored. The inscription in Cambridge in honor of Zenodotus was probably part of the same document. 5. Ἀγριοὶ λιμένες of *I. G. IV*, 927 is to be identified with the bay of Vurlia. 6. A Spartan inscription (Le Bas-Foucart, 194 b) is restored. 7. An inscription from Tritaea in Achaea (Ἐφ. Ἀρχ. ἀρ. 2038) is restored. 8. A fourth-century inscription from Chalcidice is published. 9. In *I. G. III*, 170 the name of the Thracian town is restored as ἄστὺ τὸ [Σέ]ρδ[ων]. 10. An inscription from Lampsacus (*B. C. H. XVII*, p. 555, No. 57) is restored. 11. Lysias and Philomelus in an inscription from Didyma (Haussoullier, p. 208, No. 7) were petty tyrants. The decree in honor of Philonides (*B. C. H. VII*, p. 300 and XI, p. 219) is discussed in this connection.

Inscriptions from the Athenian Agora.—In Ἀρχ. Ἐφ. 1911, pp. 222–242 (14 figs.), (continued from *ibid.* 1910, pp. 1–28, 175/6, 401–407/8), G. P. OIKONOMOS publishes fourteen inscriptions from the Athenian agora. No. V, in the year of a new archon Athenodorus, probably 240/39 B.C., in honor of *athlothetae* in the Panathenaea, seems to show that these magistrates had charge of the lesser, annual, festival as well as of the great Panathenaea, as the only assignable dates are years in which the latter were not held. Nos. VI and VII, in honor of subordinate officials of the senate and *demos*, signed by the members of the prytany, are interesting as indicating, by the varying representation in the senate, the changing population of different demes. No. VIII, of 188/7 B.C., mentions an otherwise unknown *Hipparcheion* at Athens. No. IX, of the third century of our era, is in honor of a descendant of the famous philosopher Apsines of Gadeira. No. XVIII, of about 400 B.C., marks the boundary of an underground workshop or factory.

Note on an Attic Decree.—In *R. Ét. Anc.* XIV, 1912, p. 39, P. ROUSSEL restores ll. 2–3 of the inscription published by von Premerstein (*Ath. Mitt.* 1911, p. 75) ἐπειδ[ὴ ὁ δεῖνα διατρίβων] | [πρό]ς τεῖ κατὰ θάλατταν ἐργασίαι καὶ βουλόμεν[ος κ.τ.λ.]

The Building Inscriptions of the Erechtheum.—In *Ath. Mitt.* XXXVI, 1911, pp. 317–343, L. D. CASKEY discusses the fragments of the building accounts of 409–8 B.C., under the following headings: (1) the order of the extant fragments; (2) the frieze; (3) the cornice; (4) the tympanum; (5) notes on technical terms. By combining the evidence of the inscriptions

with that of the actual remains the frieze, cornice, and tympanum can be restored in detail. The inscriptions furnish valuable evidence as to the expedients adopted for decreasing the weight of the masonry in these three courses at the southwest corner which had no solid foundation, but rested on a huge block of marble spanning the Cecropium.

Inscriptions relating to the Treaty of Corinth.—In *Sitzb. Kais. Akad. der Wiss. in Wien*, 165, 6, 1911 (55 pp.; 5 pls.; 2 figs.), A. WILHELM discusses three inscriptions relating to the treaty of Corinth of 336 B.C.; with an appendix on certain Cretan inscriptions.

Inscriptions from Andros.—In *Ἀρχ. Ἐφ.* 1911, pp. 69–78 (15 figs.), J. K. VOGIATZIDES publishes twenty-six new inscriptions from Andros, alluded to in *Ath. Mitt.* 1909, pp. 185–187, with corrections and notes on fourteen others published in *I.G.* XII⁵, between No. 715 and No. 792. No. 7 refers to the restoration of home rule in Andros by the Romans. No. 12 gives evidence of the worship of Poseidon.

Inscriptions from Delos.—In *B.C.H.* XXXV, 1911, pp. 243–287, F. DÜRRBACH concludes the publication of a series of financial inscriptions from Delos (cf. *ibid.* pp. 5–86). This part contains inscriptions 48–77.

Delian Archons.—In *B.C.H.* XXXV, 1911, pp. 423–432 (5 figs.), P. ROUSSEL publishes five fragmentary inscriptions from Delos, giving lists of the eponymous archons of the years 298–291, 197–180, 176–174 B.C., as well as six names belonging to the period 315–301 B.C., and twelve names probably belonging to the Amphictyonic period.

The Italians at Delos.—In *B.C.H.* XXXVI, 1912, pp. 5–218, J. HATZFELD publishes a study of the Italians residing in Delos mentioned in the inscriptions of the island. The article contains: (1) a prosopographia, pp. 10–101; (2) historical remarks, pp. 102–196; (3) unpublished inscriptions, pp. 197–218.

The Confederacy of the Nesiotes.—Inscriptions of the first half of the third century B.C. suggest that Delos was not a member of the confederacy of the Nesiotes, though the federal festivals were celebrated there, and it was probably the seat of the assembly of *synedroi*. In an inscription found on Heracleia (*I.G.* XII, vii, No. 509) forbidding the pasturing of goats on this island the phrase τὸ κοινὸν τῶν νησιώτων ἅπαν refers to the inhabitants of Heracleia, not to the confederacy. (P. ROUSSEL, *B.C.H.* XXXV, 1911, pp. 441–455.)

Architectural Terms.—In *B.C.H.* XXXVI, 1912, pp. 219–229, R. VALLOIS discusses the meaning of the terms *στοιβά* and *κερκίς* in building inscriptions from Epidaurus. *Στοιβά* is not the foundation of the *peristasis*, but the ramp leading to the *peristasis*. *Κερκίς* is used in the accounts of the building of the temple of Asclepius to designate one-half of a pediment, an explanation also advanced by Ebert (*Fachausdrücke des griechischen Bauhandwerks*, p. 34).

An Epigraphical Tour of Arcadia.—A visit to Arcadia, made in March–June, 1910, by A. Hiller v. Gaertringen and H. Lattermann, primarily to complete the study of Arcadian inscriptions for the *C.I.G.* was, from the paucity of epigraphical remains, largely devoted to observations on the country itself, its history, art, and culture. These aspects of the district were discussed before the Berlin Archaeological Society at its February (1911) meeting. Among the many survivals of primitive cus-

toms, due to the peculiar isolation of the people, was the ancient clan organization, which lasted until the defeat of Sparta at Leuctra in 371 and the consequent building of Megalopolis in the course of the next ten years. This gives a partial means of dating Arcadian decrees and Olympic victories, for if the clan name appears in them, they are earlier than the autumn of 361 B.C. So of the decree concerning the Athenian Phylarchus. The two sacred mountains, Lycaeus and Cyllene, the very ancient Pelasgic city of Lycosura, to which the cult of Despoina was carried from Eleusis in the latter part of the third century B.C., the code of local religious history compiled by the priests of the neighboring Messenian Andania and used by Polybius and Pausanias, the relief portrait of Polybius found at Clitor in 1889, and the situation and history of Orchomenus, one of the oldest and most important cities, with the neighboring Methydrium, Thisoa, Teuthis, and Caphyae, were among the topics treated. (*Arch. Anz.* 1912, cols. 33-40. More fully given in the *Anhang zu d. Abh. d. Berl. Akad. d. Wiss.* September, 1911, and the seventy-first *Winckelmannsprogramm*, December, 1911.)

The Phylarchus Inscription from Tegea.—In *Ath. Mitt.* XXXVI, 1911, pp. 349-360, F. HILLER VON GAERTRINGEN republishes, on the basis of a squeeze in Upsala, the inscription from Tegea (Foucart, *Mémoires présentés à l'Acad. des. inscr.* VIII, 1870; LeBas-Foucart, II, 340 a; Milchhoeffer, *Ath. Mitt.* VI, 1879, p. 133) in which the Arcadian league honors Phylarchus, the Athenian. He dates the decree between the battle of Mantinea and the summer of 361 B.C. on the evidence of the names of cities belonging to the league (see above). The style of the writing and the rude relief at the head of the stele, representing Tyche with a rudder standing before a trophy, help to confirm this dating.

The Judgment of Mantinea.—The inscription from Mantinea containing a judgment against debtors to the temple of Alea and against Themandrus, if he prove to be a murderer (Fougères, *B.C.H.* XVI, 1892, pp. 568-579, *Mantinée et l'Arcadie orientale*, p. 524; Buck, *Greek Dialects*, pp. 174-176; Hiller v. Gaertringen, 'Arkadische Forschungen,' *Abh. Berl. Akad.* 1911, pl. XII, 3, etc.) is translated and discussed by R. MEISTER (Beiträge zur griechischen Epigraphik und Dialektologie, XI) in *Sitzb. Sächs. Ges.* 1911, No. 9, pp. 193-210 (pl.). The discussion, chiefly grammatical, aims to elucidate the meaning of the difficult parts of the inscription.

Laconian Inscriptions.—In *Arch. Eph.* 1911, pp. 193-198; 243 (6 figs.), D. EVANGELIDES publishes six inscriptions seen by him in Sparta and vicinity: three gravestones; a catalogue of ephors, dated about 150 A.D.; and two inscriptions in honor of Hadrian as "Savior." *Ibid.* p. 199, he republishes with commentary *C.I.G.* 1426, the recent rediscovery of a portion of which affords new proof of the trustworthiness of Fourmont, who first published it.

Aristotimus, Priest of Apollo at Delphi.—In *B.C.H.* XXXV, 1911, pp. 492-498, A. KERAMOPOULLOS publishes an inscription on a statue base at Delphi showing that the statue was of the Emperor Hadrian and that it was set up by Titus Flavius Aristotimus, priest of Apollo. The same man is mentioned on a coin bearing the bust of Antinous and the legend *Ἀριστότιμος ἀνέθηκεν ἱερῆς*. The statue of Antinous referred to is presumably the one found at Delphi by the French. Both statues were probably set up on the occasion of the emperor's visit in 125 A.D.

Thessalian Inscriptions. — In 'Αρχ. 'Εφ. 1911, pp. 129-149 (19 figs.), A. S. ARVANITOPOULLOS continues Part III (begun *ibid.* pp. 123-128) of his 'Thessalian Inscriptions,' publishing twenty-five decrees of Gonnus in honor of *dikastai* and *bolimodikastai* from other cities of Thessaly, who served in cases tried at Gonnus. The term *bolimodikastai* is a new one, applied to judges in interstate cases (ἀπὸ συμβόλων δίκαι). The month *Διθυράμβιος* appears for the first time, and many new names of men occur. Supplementary remarks and corrections are made in pp. 244-245.

Macedonian Inscriptions. — In *Ath. Mitt.* XXXVI, 1911, pp. 278-280, P. N. PAPAGEORGIOU publishes new readings of three inscriptions: (1) Duchesne et Bayet, *Mémoire sur une mission au Mont Athos*, p. 80; (2) *B.C.H.* XVIII, 1894, p. 438; (3) *Ath. Mitt.* XXI, 1896, p. 99.

Workmen's Marks and Names in Thessalonica. — In 'Αρχ. 'Εφ. 1911, pp. 168-173 (5 figs.), P. N. PAPAGEORGIOU publishes forty-two marks and abbreviated names inscribed upon marble seats and steps from the theatre, or more probably the hippodrome, of Thessalonica, which were built into the Byzantine fortification walls. The letters were evidently cut by workmen engaged upon the original structure (so also Choisy, *R. Arch.* 1876, pp. 355 ff., who noted some similar marks). The writer also publishes the marble base of a theatre chair and two reliefs representing Atlas-like figures from the theatre, of which the site has not been identified.

A Thasian Inscription. — In *B.C.H.* XXXVI, 1912, pp. 240-247, C. PICARD criticises the restorations of the inscription from Thasos, *I.G.* XII, 8, the original of which is now lost. In line 5 he proposes to read ἄγος for ἄγγος.

Inscriptions from the Levant. — In *Ath. Mitt.* XXXVI, 1911, pp. 287-301 (6 figs.), T. WIEGAND publishes twelve Greek inscriptions from Constantinople and thirteen from various parts of Asia Minor.

A Decree of the Cnidians. — In *Ath. Mitt.* XXXVI, 1911, pp. 285-286, P. ROUSSEL shows that a fragmentary inscription published by M. Schede (*ibid.* p. 97) is a part of the proxenos decree from Cnidus (Michel, *Recueil Inscr. grec.* 449). The person honored, Ἰφιάδης . . . μοκράτεος, of Abydos, is to be identified with the Iphiades mentioned by Demosthenes, *Against Aristocrates* (XXIII, 175, 177). For a fuller historical discussion cf. Wilhelm, *Anz. d. Wiener Akademie*, 1911, p. 170, where the connection of the two inscriptions is also noted.

Inscriptions from the Peraea of the Rhodians. — In 'Αρχ. 'Εφ. 1911, pp. 52-69 (14 figs.), (continuation of *ibid.* 1907, pp. 209-218), M. and N. CHAVIARA publish with commentary and topographical notes seventy-one inscriptions from various points on the mainland opposite Rhodes. The modern Losta is identified as the site of ancient Tymnus.

Rhodian Eponymi. — In *Klio*, XII, 1912, pp. 249-258, F. BLECKMANN continues his study of the Rhodian eponymi inscribed on amphora handles, adding the names discovered since the publication of his dissertation in 1907.

Aridices and Hieronymus of Rhodes. — In *B.C.H.* XXXVI, 1912, pp. 230-239 (2 figs.), F. HILLER v. GAERTRINGEN publishes with a facsimile an inscription found in Rhodes (cf. N. G. Polites, *Παναθήναια*, April 30, 1910). It is the epitaph in three elegiac couplets of the Platonist Aridices, son of Eumoeres, of Rhodes. He is to be identified with the well-known Aridices, who was a pupil of Arcesilaus of Pitane. The letters of the

inscription bear a very close resemblance to those on the grave monument of a certain Ἱερώνυμος Σιμυλίνου Τλώιος. This may be Hieronymus, the peripatetic. Both men may have died about 220-210 B.C.

Θεοὶ Ἐπήκοοι.—In *Ath. Mitt.* XXXVII, 1912, pp. 1-68 (15 figs.), O. WEINREICH discusses the epithet ἐπήκοος used of many divinities in the sense of "hearer of prayers" (Latin *exaudiens*). He quotes 138 votive inscriptions in which the term occurs. Few of these are from Greece proper; more belong to the northern provinces in Roman times; the great majority come from the islands, Asia Minor, the further East and Egypt, showing a preponderant influence of Oriental cults. A corresponding epithet occurs in hieroglyphic inscriptions in Egypt, and the representations of pairs of ears carved in relief on Egyptian stelae have the same significance. Ears carved on Greek votive stelae often express the same idea, though in some cases it is uncertain whether this is the case or whether they commemorate cures.

Inscriptions from Itanos.—In *R. Ét. Gr.* XXIV, 1911, pp. 377-425 (pl.), A.-J. REINACH publishes nine inscriptions in the Candia museum found by J. Demargne at Itanos in 1899. The most important is a treaty between Hierapytna and Praesus.

Εἰνομία.—In *R. Ét. Gr.* XXV, 1912, pp. 42-51, S. A. XANTHOUDIDES defends his theory against Maiuri (see *A.J.A.* XV, p. 236), maintaining that the Εἰνομία of Cretan inscriptions of the second century B.C. is the same as the board known as Κόσμοι.

St. Paul at Corinth.—According to a fragmentary inscription at Delphi, which contains a letter of the Emperor Claudius, the proconsulship of Gallio (Acts 18:12 ff.) fell between the summer of 51 and the summer of 52 A.D. This settles the one obscure point in the chronology of the life of St. Paul, and shows that he came to Corinth in the early part of 50 and left in the autumn of 51. These dates are confirmed by an edict of Claudius concerning the Jews. (A. Deissmann, at the May (1911) meeting of the Berlin Archaeological Society. *Arch. Anz.* 1912, col. 45.)

Epigraphic Bulletin.—In *R. Ét. Gr.* XXV, 1912, pp. 52-75, A. J. REINACH continues his epigraphic bulletin with notice of inscriptions from Asia Minor, Egypt, Sicily, Italy, Gaul, and England.

COINS

First Athenian Gold Coinage.—ARTHUR M. WOODWARD accepts the usual view that gold was first coined at Athens in 407-406 B.C. to meet a financial stress, and finds in a Greek inscription (*I.G.* II, 2, No. 665; cf. also *J.H.S.* XXIX, 1909, pp. 172 ff.) containing a list of the sacred objects preserved in the Parthenon in some year between 385 and 375 B.C., a record of the deposit also of the coinage implements used in this issue. He suggests further that these gold coins, and perhaps those of the second issue as well, were actually struck within the walls of the Parthenon (*Num. Chron.* 1911, pp. 351-356).

Coins of the Arcadian Alliance.—Numismatic evidence in the matter of the history of the Arcadian alliance (cf. *Z. Num.*, IX, pp. 18 ff.) is further examined by R. WEIL, *Z. Num.*, XXIX, 1912, pp. 139-146 (fig.).

Agathocles and the Coinage of Magna Graecia.—The numismatic

evidence for the history of certain cities of Magna Graecia under the predominance of Agathocles, tyrant of Syracuse (304-289 B.C.), is set forth by CHARLES T. SELTMAN in *Num. Chron.* 1912, pp. 1-13 (pl.).

Coinage of Terina. — Sir ARTHUR J. EVANS discusses the works of the coin engravers of Terina who signed themselves Φ and Γ , and indicates the extent of the influence upon their work of Attic art and the school of Zeuxis. Incidentally he also vigorously defends KURT REGLING ('Terina,' in *66tes Progr. zum Winckelmannsfeste*) from the animadversions of H. von Fritze and H. Gaebler in *Nomisma*, I, pp. 14 ff. In the second part of his article he describes the period of Syracusan influence upon the coinage of Terina, and especially calls attention to the signature of Evaenetus (abbreviated EYA) upon two Terina didrachms in his own possession. (*Num. Chron.* 1912, pp. 21-62; 3 pls.; 2 figs.)

IATON on Coins of Himera. — In *R. Belge Num.* LXVIII, 1912, pp. 125-128 (3 figs.), E. J. SELTMAN reads the puzzling word IATON on another drachma of Himera.

Coinage of Alexander the Great. — EDWARD T. NEWELL publishes in *A. J. Num.* XLV, 1911, pp. 194-200, his fourth paper on the 'Reattribution of Certain Tetradrachms of Alexander the Great,' devoting especial attention in it to the "hoard of Demanhur," found in Egypt about 1906, and comprising from fifteen to twenty thousand Alexander tetradrachms.

Seleucid Coins. — G. MACDONALD publishes in *Z. Num.* XXIX, 1912, pp. 89-106 (2 pls.), 45 coins of the Seleucid kings either rare or previously unpublished.

GENERAL AND MISCELLANEOUS

Mycenaean Remains and the Homeric Catalogue. — In *Ann. Arch. Anthr.* IV, 1912, pp. 128-139, M. S. THOMPSON examines the Homeric Catalogue in the light of Mycenaean remains and finds that as far as the mainland of Greece is concerned there is a marked agreement. In Attica remains dating from Late Minoan II and III found on the Athenian Acropolis show that there is no archaeological evidence for suspecting the passage in which Athens is mentioned. Thessaly, which was never completely under the influence of Mycenaean civilization, is in Homer peopled by barbarians ruled by Achaean chieftains. It is mentioned last in the list because it was last to come under Mycenaean domination. On the west coast of Greece the districts known to Homer are Mycenaean, while the interior of the country, which is outside the Homeric world, possessed a rude non-Mycenaean civilization. In Arcadia there is not at present sufficient evidence either way; but in the islands of the Aegean there is agreement. The Catalogue seems to be a national list of the Mycenaean dominions, and only incidentally a list of those who fought at Troy. The cause of the war was the extension of Mycenaean power. Excavation in Asia Minor has not been sufficiently extensive to locate the towns of the Trojan allies, but it is clear that the Trojan power was much less homogeneous than that of Agamemnon.

Cretan Place Names. — In *Rend. Acc. Lincei*, XX, 1911, pp. 631-675, A. MAIURI continues his article on Cretan onomatology (cf. *ibid.* XIX, 1910, pp. 329-363), tracing a connection between southern Thrace and central Crete in many names. The last part of the article treats of the proper names of eastern Crete.

Monuments of Delphi.—In *B. C. H.* XXXV, 1911, pp. 456–491 (3 figs.), ÉMILE BOURGUET discusses: (1) the base of the Car of the Rhodians at Delphi. This can be restored in detail with the aid of the inscriptions carved on its blocks. It was composed of eight courses of limestone—the top and lowest courses being adorned with mouldings—resting on two steps. The dedicatory inscription was as follows: 'Ο δᾶμος ὁ Ποδ[ί]ω[ν] τῶι Ἀπ[ο]λλωνι τῶι Πυθί[ῳ]. Judging from the forms of the letters the monument was erected in the third century B.C. Bourguet publishes two *proxenos* inscriptions carved on the base; the other inscriptions record manumissions.

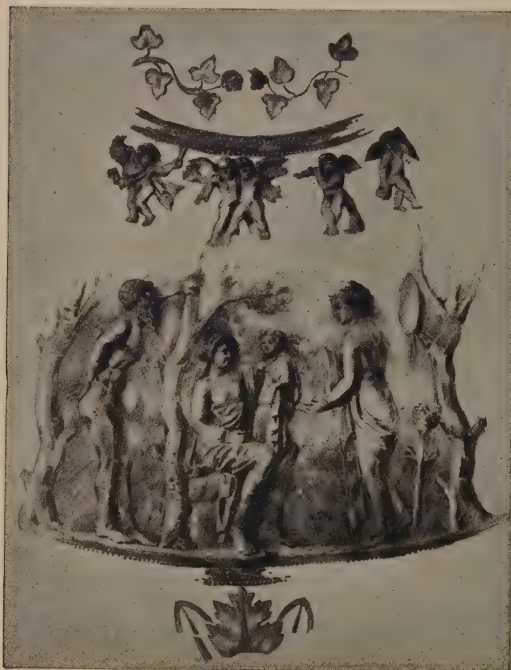


FIGURE 4.—SILVER VASE FROM THESSALY.

118 (6 pls.; 14 figs.), A. S. ARVANITOPOULLOS publishes the contents of a tomb found in 1909 at Palaikastro near Carditza, the site of the ancient Metropolis of Hestiaeotis. The burial was made about 158 B.C.; the objects may be dated about the end of the third or the beginning of the second century. They include a silver alabastron with two main zones of decoration in relief,—the upper a dance of Erotes, the lower the infant Dionysus, the cave of nymphs and Silenus (Fig. 4); a silver pyxis decorated with masks, garlands, taeniae and Maenads; a pair of gold bracelets; a gold necklace; various other pieces of jewelry; vessels of silver, bronze, glass, and terra-cotta. The article closes with a discussion of the style of toreutic work on the Greek mainland as compared with Alexandrian work. The vessels from Greece show greater simplicity in their profiles and the

(2) The base dedicated by the daughter of Timolaus. This was in the form of two Ionic columns resting on two steps and supporting an entablature, the frieze of which bore a honeysuckle ornament imitated from that of the Siphnian Treasury. The inscription on the architrave shows that the statues of Timolaus, his wife, his daughter (the dedicator), and the latter's son (see *A.J.A.* XVI, p. 442) were erected on this unusual statue base of which there were three other examples at Delphi. (3) Notes on questions of Delphian chronology.

A Find of Gold and Silver in Thessaly.—In *Ath. Mitt.* XXXVII, 1912, pp. 73–

shapes of the handles; the backgrounds are left empty; the subjects are often mythological rather than merely decorative, playful, or sentimental. The Megarian bowls furnish close parallels.

The Tabula Iliaca.—In *Mem. R. Accad. dei Lincei*, XIV, 1911, pp. 662-731 (pl.; fig.), U. MANCUSA publishes a study of the Tabula Iliaca in the Capitoline Museum, with an excellent reproduction of the same size as the original. The extant portion of the monument represents, with accompanying inscriptions, scenes from Books 1 and 13-24 of the Iliad, the Aethiopis, and the Little Iliad.

Cockerell at Delos.—In *R. Arch.* XIX, 1912, pp. 260-312 (18 figs.), A.-J. REINACH gives, with explanations and notes, the contents of Cockerell's journal and other papers relating to his visit to Delos in October, 1810. Cockerell's slight excavations were not very successful, but he made many sketches of architectural details and copied some inscriptions. The originals of the sketches are identified and the inscriptions are discussed by M. Reinach.

Representations of a Satyr Play.—In *Ath. Mitt.* XXXVI, 1911, pp. 269-277 (2 pls.), M. BIEBER publishes a fragmentary red-figured deinos in Athens with a representation of a satyr play. Fragments in Bonn of a vase from the same factory contain replicas of some of the figures as well as other figures not on the example in Athens. Apparently the two vases contain excerpts from a more complete representation of the rehearsal for a satyr play.

Problems in Greek Geography.—In *Klio*, XI, 1911, pp. 431-449, K. J. BELOCH discusses the location of several places in Greek lands. (1) Psyttaleia is the modern Hagios Georgios, not Lipsokoutala as Kallenberg and others have thought. (2) Dicte in Crete is the range east of Praesus which has Dryses for its highest summit. (3) The name Onysia given by Pliny (*N.H.* IV, 61) to an island in eastern Crete is a corruption in the manuscripts for Dionysia (cp. Diod. V, 75, 7). (4) Eleutherae in Attica is not to be identified with Gyphtokastro, which was the ancient Panaetum, but with Myupolis. (5) Demetrias in Thessaly was not at Gorgitza, but at Pagasae on the other side of the bay. (6) The Eurytanes were located about Lake Trichoris between Mt. Panaetolicus on the north and Mt. Aracynthus on the south, and extended from the Achelous to the Euenus River. (7) Calindoea must be located near Olynthus. (8) The Lethaeus was the modern Hieropotamos, not the small stream near Gortyna as Strabo (X, 478) thought. In *Berl. Phil. W.* March 2, 1912, col. 283, J. H. KALLENBERG replies to Beloch's criticism and argues that Hagios Georgios cannot be Psyttaleia. Furthermore, in *Klio*, XII, 1912, pp. 129-138 (map), W. JUDEICH discusses the positions of the fleets in the battle of Salamis and concludes that Psyttaleia must be Lipsokoutali (or Lipsokoutala), and that perhaps the small island of Skrophæes is the Ceos of Herodotus.

Pharae in Messenia and Vicinity.—In *Ἀρχ. Ἐφ.* 1911, pp. 107-118 (7 figs.), A. N. SKIAS describes the foundations of a tower of the ancient circuit wall of Pharae, discovered in 1901 in the modern town of Kalamai; publishes seven archaic inscriptions cut in the rock wall of the gorge of the Nedon near Kalamai; and discusses the topography of the region, publishing a few inscriptions from different places. Of the rock-cut inscriptions four have already been published (cf. Röhl, *I.G.A.* 74), but the writer

thinks they have been misinterpreted as votive inscriptions, and regards all seven as *graffiti*, names of workmen who cut the road in the rock along the gorge, which led, perhaps, to an ancient sanctuary farther up the stream.

Ancient Θρόνοι.—In *B. Soc. Ant. Fr.* 1911, pp. 263-266, V. CHAPOT argues that the ancient town and cape in southeastern Cyprus called Θρόνοι were so named from thrones cut in the rock, where certain deities were worshipped. He compares the five thrones at Pilarou, Thera, the one at Kerata in Attica, two at Phalasarna in Crete, another at Lindus in Rhodes, the thrones of Zeus and Hecate on the island of Chalcæ, those of the Magna Mater in Phrygia, etc.

The Lenæa and the Lenæum.—That the numerous fifth-century vases, chiefly red-figured and from the first half of the century, which show a column-shaped Dionysus surrounded by dancing Bacchantes represent the festival of the Lenæa, not the Anthesteria, and indicate Theban connections for the former, and that the Lenæum lay outside the walls and was, indeed, the small temple found outside the Dipylon gate, are conclusions reached by A. Frickenhaus and questioned by Wilamowitz-Moellendorf at the November (1911) meeting of the Berlin Archaeological Society. (*Arch. Anz.* 1912, cols. 55-56.)

The Dictæan Cave.—In *R. Hist. Rel.* LXIV, 1911, pp. 277-291 (map), J. TOUTAIN argues that literary and epigraphic evidence prevents the identification of the Dictæan cave with the cave of Psychro. The latter is the cave referred to by Hesiod as in the Aegean Mountains near Lyttus. The Dictæan cave has not yet been found. It must be sought in the mountains of eastern Crete, probably between Palaikastro and Praesus.

Notes on the Cult of the Double Axe and of the Nude Goddess.—In *B. Pal. It.* XXXVII, 1911, pp. 134-154 (pl. 14 figs.), L. FIGORINI presents his observations on the prehistoric cult of the double axe and of the nude goddess, as represented by objects found in primitive tombs.

Cults connected with the Amazons.—The Amazons were votaries of Cybele, Artemis under various surnames, Apollo called Amazonian, and Ares. The cults with which they were associated appear to be pre-Hellenic. The tradition of the Amazons preserves memories of a time when women held the important place in state and religion. These results are reached by a discussion of the legends of the Amazons as told in Greek literature and illustrated in Greek art. [FLORENCE MARY BENNETT, *Religious Cults associated with the Amazons*. New York, 1912, Columbia University Press, Lemcke & Buechner, agents. 79 pp. 8 vo. Dissertation.]

Marsyas.—In *R. Arch.* XIX, 1912, pp. 390-405, SALOMON REINACH discusses various theories concerning the origin and meaning of Marsyas. He concludes that Marsyas was an ass-god. Apollo also was once an ass-god (or at least an Apollo-ass existed), inasmuch as asses were sacrificed to Apollo in historical times. At Celaenæ the skin of Marsyas was shown. Perhaps the name Marsyas is connected with μάρσπος, "bag or sack of leather."

Engraved Gems.—In his *Engraved Gems*, DUFFIELD OSBORNE undertakes to provide collectors with an up-to-date handbook of gem engraving, ancient and modern. After an introduction dealing with the forgeries, materials, size, shapes, workmanship, designs, inscriptions, and signatures of ancient gems, he discusses in Part I the gems of different periods beginning

with those of Minoan Crete and continuing down to modern times, including chapters on Etruscan scarabs, Mithraic and Gnostic talismans, and Byzantine, Sassanian, and Moslem gems. In Part II he describes the gods and other personages engraved on gems, and their attributes; and in Part III the tools and technique of gem engraving, the stones used, etc., and adds full descriptions of the thirty-two plates which illustrate the work. [*Engraved Gems, Signets, Talismans, and Ornamental Intaglios, Ancient and Modern.* By DUFFIELD OSBORNE. New York, 1912, Henry Holt & Co. 424 pp.; 32 pls.; 29 figs. \$6.]

Writing of an Ancient Milesian Natural Philosopher. — In *Memnon*, V, 1911, pp. 149-170 (2 pls.), W. H. ROSCHER maintains that the first eleven chapters of the so-called Hippocratic "Book of Sevens" contain an extract from a philosophical work of the old Milesian school. In its standpoint this work falls between the teaching of Solon and the old Pythagorean school. This view the author defends against the criticism of Diels in *D. Lit. Ztg.* July 29, 1911.

The Symbolism of the Pythagoreans. — In *Klio*, XI, 1911, pp. 481-496, F. X. KUGLER presents evidence to show that the symbolism of the Pythagoreans goes back to Babylonian sources.

The Greek Genius. — In *The Greek Genius and its Meaning to Us* (Oxford, 1912, Clarendon Press, 250 pp. 8 vo. 6s. net), R. W. LIVINGSTONE tries to determine and illustrate those qualities in Greek literature which make it of value to us. He distinguishes the Note of Beauty, the Note of Freedom, the Note of Directness, the Note of Humanism, and the Notes of Sanity and Manysidedness. Pindar, Herodotus, and Plato (the last as one who does not fit in a conception of the Greek genius as made up of the notes mentioned above) are especially discussed, and a chapter is devoted to the fifth century and after. The book is in no sense archaeological, but is of interest to archaeologists in so far as a discussion of the qualities exhibited in Greek literature may lead to better understanding of Greek art.

ITALY

ARCHITECTURE

The Tomb of C. Sulpicius Platorinus. — In *Boll. Arte*, V, 1911, pp. 365-372 (colored pl.; 8 figs.), R. PARIBENI and A. BERRETTI discuss the reconstruction of the tomb of C. Sulpicius Platorinus reërected in 1911 in the Museo delle Terme.

SCULPTURE

The Etruscan Stelae at Bologna. — In *Mon. Antichi dei Lincei*, XX, 1911, cols. 357-727 (5 pls.; many figs.), P. DUCATI discusses the Etruscan stelae at Bologna. A summary of his work, with criticism, is given by A. GRENIER in *R. Arch.* XIX, 1912, pp. 137-140. Perhaps the most important result of the detailed study of these monuments is the connection established between them and the Gallic invasions. The Etruscans of Bologna continued to resist the Gauls until the middle of the fourth century B.C.

The New Head of Augustus. — In *Ath. Mitt.* XXXVI, 1911, pp. 361-363, A. IPPEL discusses the bronze head of Augustus from Meroe, published by

R. C. Bosanquet (*Ann. Arch. Anth.* IV, 1911, p. 66, pls. XII-XIV; *A.J.A.* XVI, p. 114). In opposition to Bosanquet, who believes that the bronze head portrays Augustus as a young man while the statue from Prima Porta represents him at about the age of fifty, Ippel maintains that both portraits are copies from the same original, and that the head from Meroe is the first of the two, and perhaps is a cast from the original statue.

The Apotheosis of Antoninus Pius.—The apotheosis of Antoninus Pius, as represented in the celebrated relief on the pedestal of his column, has been newly interpreted by L. DEUBNER, *Röm. Mitt.* XXVII, 1912, pp. 1-20 (4 figs.), with special reference to Oriental influences. He explains the winged youth, who bears on his wings the seated figures of Antoninus and Faustina, as the Aion of the Mithra cult, the winged demon of eternity.

Aurifex Brattarius.—One element in the relief of the gold-beater in the Galleria delle Statue of the Vatican, the pile of objects at the lower right-hand corner, has been variously and always incorrectly interpreted. The five objects, each one smaller than the one below it and all having the form of a double, truncated cone, are not bars or ingots of gold or packages of finished goldleaf, but the weights belonging to the colossal pair of scales which hang above. This is the usual form for Roman weights. The small object hanging from one arm of the bar of the scales is a moveable weight running on a graduated scale, as in our steelyard. (E. PERNICE, *Jb. Arch. I.* XXVI, 1911, pp. 288-289; fig.)

Female Head from Egypt.—In *R. Arch.* XIX, 1912, pp. 110-115 (3 figs.), ANDRÉ BOULANGER publishes a marble head bought by the Countess of Gleichen in Egypt, and afterwards sold and brought to America. It is about one-fifth larger than life. The hair is slightly parted in the middle and frames the face in a thick, rounded mass. The back of the head and neck is lacking and was originally made of a separate piece. Probably a veil or part of a mantle covered these missing parts. The head probably belonged to a replica or copy of a standing, veiled female statue made in Egypt in Roman times.

The Frieze of the Temple of Apollo at Bolsena.—In *Rend. Acc. Lincei*, XX, 1911, pp. 563-568 (2 figs.), E. GABRICI publishes a bas-relief (80 cm. by 67 cm.) built into the cathedral of Bolsena. It probably formed part of a frieze from a temple of Apollo, and represents the Hours harnessing the steeds of the Sun (Ovid, *Met.* 2, 118; Lucian, *Dial. Deor.* X; Dionys. II, 175). At the left stands Helios, characterized by an aureola, while one of the Hours from behind the chariot is tipping it back that the yoke may fall aright on the neck of a horse who is being bridled by another of the Hours. The fragment is part of a replica of a Hellenistic work, and the subject of the frieze was probably the story of Phaethon.

The Reliefs of the Arch of Constantine.—New light has been thrown upon two of the reliefs of the Arch of Constantine by an Oxxyrhynchus papyrus (Hunt, VIII, 73). This contains some forty Greek hexameters by the poet Pancrates, who lived in the time of Hadrian, and celebrated the emperor's prowess in the chase, describing the attack of a lion upon Antinous, whose life is saved by Hadrian. The bearing of this upon two of the medallions is considered in *Röm. Mitt.* XXVII, 1912, pp. 97-100, by W. HOFFA. (Cp. *ibid.* XXVI, 1911, pp. 214 ff.)

VASES

Ceramic Art in Italy. — A new chronology of the ceramic art in Italy is established by V. MACCHIORO in *Röm. Mitt.* XXVII, 1912, pp. 21–36. Instead of the generally accepted succession, Campania, Lucania, Apulia, Macchioro reverses this order, maintaining that in northern Apulia production lasted until the end of the fourth century B.C., in central and lower Apulia and in Lucania to about the end of the third century (or the second half of the century), and in Campania to the end of the third century B.C. *Ibid.* XXVII, 1912, pp. 163–188, he establishes a new chronology of the vases produced in Apulia, Lucania, and Campania, and bases it upon historical considerations, not upon stylistic criteria.

INSCRIPTIONS

The Bronze Inscription of Heraclaea. — In *R. Ét. Anc.* XIV, 1912, pp. 40–52, M. BESNIER discusses the recent works of H. Legras and J.-M. Nap on the bronze inscription found near Heraclaea in 1732 (*C.I.L.* I, 206), and concludes that neither the date nor the purpose of the inscription has yet been determined.

Inscriptions from Rome. — Various minor inscriptions found in or near Rome are published by G. GATTI, *B. Com. Rom.* XXXIX, 1911, pp. 271–282.

An Inscription at Dertona. — An inscription in the museum of Dertona (ancient Tortona) is interpreted by H. GUMMERUS, *Röm. Mitt.* XXVII, 1912, pp. 230–233 (pl.). It is found upon a stele with reliefs, — three portraits and, below, shoemaker's lasts and other tools of that trade, so scantily represented on extant monuments.

Latin Inscriptions from Dacia. — In *Klio*, XI, 1911, pp. 499–510, G. TÉGLÁS publishes 119 Latin inscriptions, most of them consisting of a few letters only, from Dacia.

Inscriptiones Latinae. — Professor DIEHL has performed a useful service for students of Latin epigraphy in publishing his *Inscriptiones Latinae*. The book consists of fifty plates reproducing Latin inscriptions covering all periods from the "Lapis Romuli" to the sarcophagus of Pope Nicolaus V (d. 1455). In one case facsimiles of as many as 98 different inscriptions are given in a single plate. A brief explanatory text and full indices are added. [*Inscriptiones Latinae*. Collegit ERNESTUS DIEHL. Bonn, 1912, Marcus & Weber; Oxford, Parker & Son, xxxix, pp.; 50 pls. 8 vo.]

Curious Interpretation of a Roman Inscription. — In *Sitzb. Mün. Akad.* 1911, No. 13 (23 pp.; 2 pls.), F. VOLLMER supplements his previous paper (see *A.J.A.* XV, 1911, p. 569) on the "Three Wretched Saints" at Etting. Saints were worshipped at Etting before 1385. No record of the names of the three saints, S. Arch, S. Haindrit, S. Gardan, is earlier than the last part of the sixteenth century. In 1627 the name of the Roman soldier Herennius was substituted for that of Haindrit, and the gravestone of the Roman was regarded as that of the saint.

Epigraphic Bulletin. — In their review of epigraphic publications for July–December, 1911 (*R. Arch.* XVIII, 1911, pp. 485–536), R. CAGNAT and M. BESNIER give the text of 156 inscriptions relating to Roman antiquity,

with notes on epigraphic publications and full indices. *Ibid.* XIX, 1912, pp. 453-492, the same authors publish similar notes and the text of 132 inscriptions for January-June, 1912. Of these inscriptions, nine are in Greek, the rest in Latin.

COINS

Monetary System of Etruria.—The French version of the discussion by E. Kovács of the monetary system of Etruria (cf. *A.J.A.* XVI, p. 288) is concluded in *R. Ital. Num.* XXIV, 1911, pp. 489-518.

The Coinage of the Brutii.—At the April (1911) meeting of the Berlin Archaeological Society, K. Regling suggested that the period usually assigned to the coins of the Brutii, 282-203 B.C., was much too long, and that they must belong only to the years 282-272, in which the Brutii were in revolt against Rome under the lead of Pyrrhus and after which they were far too much humbled to be granted the privilege of coinage by the Romans. (*Arch. Anz.* 1912, col. 44.)

The Gold Coins of T. Quinctius.—In *Sitzb. Kais. Akad. der Wiss. in Wien*, 167, 6, 1911 (78 pp.; pl.), W. KUBITSCHKE discusses at length the three gold coins inscribed *T. Quincti*. The head on the obverse is not that of T. Quinctius Flaminius, but the writer cannot identify it, or point out who this T. Quinctius was. He also discusses denarii with magistrates' names, and tribal names on Roman coins.

Medallions on Roman Standards.—COVENTRY O. SELTMAN publishes in *R. Ital. Num.* XXV, 1912, pp. 35-49 (2 pls.; 2 figs.), a unique "standard of a Roman general," as he believes it to be. It is thought to have been found, along with the *sella castrensis* which is mentioned elsewhere (see p. 593), somewhere near Colchester, England, in 1827. It consists substantially of an unusually large bordered medallion of Nero fastened in the centre of the lowest and largest of a series of four laurel wreaths arranged tangentially in a longitudinal order of decreasing size, but with the lowest framed in above by bars in a form suggesting the pediment of a temple. To the lowest wreath is attached at the extremity of a diameter extending in the line of the centres of the other wreaths, a metal socket for the insertion of a pole for carrying. Mr. Seltman believes this and the folding chair which came from the same collection (of a Mr. Forman) to have been lost in the defeat of Petilius Cerealis by the Britons.

Coin of Hadrumetum.—U. PH. BOISSEvain points out that a coin of Hadrumetum of which a number of examples are known has had the legends repeatedly misread and wrongly restored. The coin shows on the obverse the head of Neptune to right with trident over the left shoulder; on the reverse, a bust of the Sun-god, facing, with nimbus and crown of rays. The inscriptions are properly read, Obv., C. (or G.) FABIVS. CATVLVS. II. VIR; Rev., D. SEXTILIVS. CORNVTVS. II. VIR. Therefore no argument can longer be based upon this coin (which must be referred, with Mommsen, to the Augustan period) for pushing the date of the autonomous coinage of the African cities back to the beginning of the first century B.C. (*Z. Num.* XXIX, 1912, pp. 107-111; fig.)

Roman Coins of Restitution.—L. LAFFRANCHI argues that the issue by the Flavians between the years 71 and 80 A.D. of coins with restored types of Augustan issues was designed to commemorate at the distance of

a century the foundation of the empire by Augustus, and to suggest Vespasian as in a sense its second founder, after the recent civil wars. (*R. Ital. Num.* XXIV, 1911, pp. 427-436; pl.)

Coinage of Agrippa and Macrianus. — L. LAFFRANCHI defends further against attack by STUCKELBERG his claim that the coins of Agrippa were issued by Caligula, and that Macrianus the Elder must be dropped from the list of the Roman emperors who issued coins. (*Boll. Num.* IX, 1911, pp. 161-164.)

Coins of L. Verus. — In *Num. Chron.* 1911, pp. 209-267 (2 pls.), C. HAROLD DODD examines year by year the numismatic evidence concerning the eastern campaigns of L. Verus, and points out the corrections which it makes possible in the literary narratives. Two supplementary notes are appended, one on the coinage of the period between the end of the Parthian War and the death of Verus, the second on Mesopotamia after the Parthian War.

GENERAL AND MISCELLANEOUS

The Lake Dwellers of Lago di Varese. — Further light on the burial customs of the lake dwellers (their practice of providing for the dead on platforms over the water, near the homes of the living) is furnished by P. CASTELFRANCO, *B. Pal. It.* XXXVII, 1911, pp. 113-119 (pl.), who describes fragments of cinerary urns and other vessels from the Lago di Varese.

Neolithic Remains near San Severo. — Neolithic remains in the vicinity of San Severo and Monte Gargano are discussed by U. RELLINI in *B. Pal. It.* XXXVIII, 1912, pp. 1-10 (3 figs.). The region is especially rich in implements of the period.

An Archaic Cinerary Urn. — The swastika, as it appears upon an archaic cinerary urn found near Rapallo, is discussed by A. ISSEL in *B. Pal. It.* XXXVIII, 1912, pp. 39-50 (5 figs.). Other objects found in the same tomb, including an iron spear-point, are also described.

Etruscan Remains at Castiglione del Lago. — A small Etruscan tomb, discovered by accident in 1901, at S. Benedetto, Castiglione del Lago, on the Trasimene Lake, is described in *Röm. Mitt.* XXVII, 1912, pp. 51-61 (5 figs.) by B. NOGARA. It contained cinerary urns with recumbent figures in terra-cotta, and vessels in bronze and clay. The tomb belonged to the Ceina (*i.e.* Caecina family).

The Bronze Censors of Bologna. — A full treatment of the various bronze censers (so-called) which have been found in the vicinity of Bologna, and represent the Villanova civilization, is published by P. DUCATI in *B. Pal. It.* XXXVIII, 1912, pp. 11-29 (2 pls.; fig.). They are distinguished by handles in the form of water-fowl, and by an abundance of chains and pendants.

A Bronze Situla from Lentini. — A bronze *situla*, serving as a cinerary urn, discovered at Lentini, and now in the museum at Syracuse, is studied by P. ORSI in *B. Pal. It.* XXXVIII, 1912, pp. 30-38 (fig.). He traces the type back to an Ionian origin, and connects it with the archaic *situlae* found in northeastern Italy. No other specimen has been found in the south.

Republican Monuments at Ostia. — Some republican monuments at Ostia are described and illustrated by D. VAGLIERI, *B. Com. Rom.* XXXIX, 1911, pp. 225-245 (3 pls.; 17 figs.). Until recently this period was

hardly represented at all among the accessible remains of Ostia. Vaglieri has brought a number of such structures to light, though it cannot be said that any one of them is of great importance.

Tabulae Caeritum.—In *Mél. Arch. Hist.* XXXI, 1911, pp. 435-454, D. ANZIANI discusses the origin and meaning of *tabulae Caeritum*. His theory is that during the sixth and fifth centuries B.C. commercial relations were very close between Rome and Caere, and that the former drew much of its grain supply from southern Etruria. The desirability of giving some legal standing in Rome to the merchants of Caere led to the bestowal upon them of civil rights, *civitas sine suffragio*, and to the drawing up of the *tabulae Caeritum*. Later, citizens who had been deprived of their suffrage by the censor were inscribed upon the same tablets, inasmuch as their political status was practically the same as that of the Caeritans.

Roman Slavery.—In *Röm. Mitt.* XXVII, 1912, pp. 189-221, M. BANG continues his treatment of Roman slavery, with special reference to the supply, and the large numbers of Italians who by kidnapping, exposure, sale by parents or others, but, particularly, by voluntary sale, swelled the ranks of the slaves.

Birth Customs in Corsica.—Strabo (III, 4, 17; 165), in speaking of Corsica, and Diodorus Siculus (I, 80; V, 14) of the Celts, describe a custom existing among those peoples that a husband whose wife has given birth to a child should submit to a sort of child-bed for some days or weeks. This custom, still found among the Basques and some peoples of southern Asia, corresponds quite closely to one among the natives of South America. H. KUNKE in *Z. Ethn.* XLIII, 1911, pp. 546-563, discusses and attempts to explain this so-called "*covade*" and lists more than a hundred references to the custom in ethnological writers.

The Mosaic of Torre Annunziata.—The well-known mosaic discovered at Torre Annunziata in 1897 has been studied by F. DREXEL, in *Röm. Mitt.* XXVII, 1912, pp. 234-240 (fig.) and brought into connection with the pseudo-Plutarchian description of a relief by the tomb of Isocrates, representing the orator in a group of his teachers and several poets. The mosaic had been interpreted by Peterson (*Ibid.* XII, 1897, pp. 328 ff.) as depicting the Academy.

The Via Salaria.—The elaborate work on the Salaria, published by the Marchese PERSICHETTI in *Röm. Mitt.* in 1908 and 1909, and then separately (*La via Salaria nei circondarii di Roma e Rieti*, Rome, 1910), has been supplemented by T. ASHBY, *Röm. Mitt.* XXVII, 1912, pp. 222-229. The eighteenth milestone has been discovered (*temp. Nervae*) since Persichetti's work and the earlier paper of Ashby.

The Imperial Fora.—In *Boll. Arte*, V, 1911, pp. 445-455 (pl.; 40 figs.; plan), C. RICCI discusses the remains of the imperial fora with many full-page illustrations, and publishes a drawing showing how the whole series would look if the modern buildings were removed.

Plan in Relief of Imperial Rome.—In *R. Arch.* XVIII, 1911, pp. 419-422, LOUIS CHATELAIN writes in high praise of the model or plan in relief of Rome in the fourth century of our era, which is in the National Museum at the baths of Diocletian, in Rome. It is the work of a French architect, Mr. Bigot. The same article appeared first in the *Bollettino dell'Associazione archeologica romana*.

Formae Urbis Romae Antiquae.—Messrs. KIEPERT and HUELSEN have published a new and enlarged edition of their work on the topography of ancient Rome. The literary evidence, ancient and modern, is collected in three chapters, (1) one dealing with temples and the like; (2) one with churches and Christian monuments; and (3) one with public and private monuments. An index of modern names is added. Four large maps accompany the text. [*Formae urbis Romae antiquae*. Delineaverunt H. KIEPERT et CH. HUELSEN. Berolini, 1912, D. Reimer, XIX, 162 pp. 4 maps. 8vo. M. 16.]

A Fourth-century Necropolis at Genoa.—In *Ausonia*, V, 1911, pp. 13-55 (13 figs.) R. PARIBENI describes in detail the contents of seventy-three tombs found on the east side of the hill of S. Andrea, Genoa. They are all pit tombs, poorly preserved, and contained many red-figured vases, chiefly craters and cylices, of South Italian manufacture. Several bronze vessels, as well as fibulae and vases of glass, were also found. The necropolis probably dates from the end of the fourth century B.C.

Chair of a Roman General.—In the same paper in which he describes a unique Roman standard (see p. 590), COVENTRY O. SELTMAN describes and pictures also a unique folding chair of iron, with incrustations of silver, which he believes to have been the *sella castrensis* of a Roman general, and to have been lost near Colchester along with the standard in the defeat by the Britons of Petilius Cerealis in the time of Nero. (*R. Ital. Num.* XXV, 1912, pp. 49-52; 2 pls.; fig.)

Pila Ardentia.—In *B. Soc. Ant. Fr.* 1911, pp. 266-270 (fig.), A. HÉRON DE VILLEFOSSE points out that specimens of the *pila ardentia* mentioned by Latin writers are still extant. There are two kinds: one in which a hole near the point carried the burning pitch; and the other in which the spearhead a short distance from the point was split into three parts, widened out, and then united again a few inches further on. This made a larger enclosure for the inflammable material.

A Toponomastic Lexicon of Italy.—In *Rend. Acc. Lincei*, XX, 1911, pp. 503-562, S. PIERI presents the results of studies made by him for a toponomastic lexicon of Italy, under the auspices of the Reale Accademia dei Lincei. The proper names of the valley of the Arno are here traced back to their Latin equivalents: first, local names derived from the names of persons, which are primitives; second, names derived by suffixes *-ano* and *-âtico* from Latin gentile names.

FRANCE

Burials of Protohistoric Ages in Southwestern France.—In *R. Arch.* XIX, 1912, pp. 1-59 (21 figs., most of which contain many small drawings), LÉON JOULIN begins a description and discussion of the burials belonging to the Iron Age in southwestern France. After a brief introduction, he describes six groups: (1) Toulouse, with an elaborate tabulation of the contents of graves; (2) Le Tarn; (3) Les Pyrénées Centrales; (4) Le Bassin de l'Adour; (5) L'Agenais et le Quercy; (6) Le Cantal, la Corrèze, et la Dordogne. The contents of the graves in the various cemeteries are described, as are the graves themselves, and approximate dates are determined. *Ibid.* pp. 235-254, the burials are classified according to periods (Bronze

Age, two only, Terrier de Cabut and at Singlayrac; First Iron Age, numerous; Second Iron Age, at Toulouse, at Albi, in the Agenais, and perhaps in the Quercy; the first period of Roman domination at Toulouse). The arrangement and contents of the tombs are described. Apparently the Celts (the bearers of the civilization of the First Iron Age) took possession of the country in the sixth and fifth centuries B.C. From the fourth century B.C. the Celtic civilization of the Second Iron Age reigned in all southwestern Gaul. Hellenic influence increased. Finally, the Roman conquest brought further economic consequences; but the Celtic sepulchral rites still survived.

The Age of the Decorated Caves and Rocks of France and Spain. — In *R. Arch.* XIX, 1912, pp. 193–234 (37 figs.), the abbé H. BREUIL discusses the drawings, paintings, and carvings in caves and on rocks in France and Spain. He concludes that an original art arose, at the beginning of the higher palaeolithic age, contemporary with the glacial fauna north of the Pyrenees and the Alps, and with a temperate fauna beyond these barriers. This naturalistic art developed in all the Southwest of France and the Northwest of Spain during a long period. Here human figures are rare. In the East and Northeast of Spain they play an important rôle. A schematic (Capsian) art existed in the Southwest of Spain, and this was driven northward by the advent of neolithic people in the South. Some of the Capsians remained, apparently, in southern Spain and Portugal, and some may have moved from Morocco to the Soudan.

Prehistoric Perigord. — In *R. Past*, XI, 1912, pp. 82–92, O. HAUSER's *Guide* to the prehistoric remains in the Vézère and Dordogne valleys is translated under the title 'Prehistoric Perigord.'

The Epoch of the Foundation of Alesia. — In *R. Arch.* XIX, 1912, pp. 101–109 (4 figs.), JOSEPH DÉCHELETTE shows that nothing has yet been found at Alesia, to which a date earlier than the first century B.C. can be assigned. Only a relatively small part of the site is excavated, and earlier objects may, of course, be discovered.

The Roman Road from Bordeaux to Astorga. — In *R. Ét. Anc.* XIV, 1912, pp. 175–188 (4 figs.; map), L. COLAS traces the Roman road from Bordeaux to Astorga where it crosses the Pyrenees. The modern Saint-Jean-le-Vieux is the Imus Pyrenaeus of the Antonine Itinerary, Château-Pignon is Summus Pyrenaeus and Ibañeta is Summus Portus.

The Friezes of the Arch at Orange. — In *R. Arch.* XIX, 1912, pp. 337–342 (2 figs.), S. REINACH publishes drawings of the friezes of the northern and southern stylobates of the arch at Orange and reprints, with corrections, from *C. R. Acad. Insc.* 1909, pp. 513–518, his proof that the arch was erected in honor of the victory of Julius Caesar (or his legate C. Trebonius) in 49 B.C. An inscription was added later in honor of Tiberius. The monuments at St. Remy belong to the same date as the arch at Orange.

SWITZERLAND

The Roman Theatre at Augst. — In *Die Schweiz*, XVI, May 1912, pp. 205–208 (6 figs.), F. STÄHELIN describes the remains of the Roman theatre at Augst (Augusta Raurica), Switzerland. It has been known since the Renaissance, but it was completely excavated and restored 1893–1906.

There were three buildings on the site: first, a theatre of the time of Augustus; then an amphitheatre built a few decades later, with an arena 47 m. long, by 36 m. wide; then a theatre again, probably erected after the withdrawal of the Roman garrison. This apparently lasted down to the invasion of the Alemanni about 450 A.D.

GERMANY

Distribution of Prehistoric Types. — In *Z. Ethn.* XLIII, 1911, pp. 664–817 (66 figs.; map), R. BELTZ, presenting the fifth report of the commission chosen by the German Anthropological Society for the publication of maps showing the distribution of prehistoric types, classifies more than 2200 La Tène fibulae, by their periods, provenance, and form, indicating surroundings (grave, hill, bridge, swamp, etc.), and giving the literature. A supplementary list of 264 such fibulae is given *ibid.* XLIII, 1911, pp. 930–943.

A Grave Relief from the German Limes. — A sculptured grave stone which was found near Obernburg am Main in 1889 and which has been published several times, bears some obscure inscriptions, one of which H. DESSAU has deciphered as OTHRYADEIA, *i.e.* Othryades. The letters occur on a shield which forms part of a trophy, and they evidently refer to the story of the Spartan Othryades who, when mortally wounded in a battle with the Argives, raised a trophy and marked it with his own blood. The incident was well known in late antiquity and is represented on gems, but the native artist of this stone formed his own conception of the picture. (*Arch. Anz.* 1912, col. 69.)

Ancient Writing Materials. — In *Ber. Kunsts.* XXXIII, 1912, cols. 143–147 (2 figs.), W. SCHUBART describes various ancient writing materials preserved in the Berlin museum.

Supports for Roman Incense-Burners. — In *Röm.-Germ. Kb.* V, 1912, pp. 10 ff., K. S. GUTMANN discusses a class of terra-cotta objects in German museums of Roman antiquities, the exact purpose of which has never been ascertained. In shape they resemble speaking tubes and are made of common clay without artistic finish. He shows that they served as supports to incense-burners, to which they show great resemblance in the technique of their decoration.

GREAT BRITAIN

Stonehenge. — At the March (1911) meeting of the Berlin Archaeological Society, C. Schuchhardt spoke on Stonehenge and its relation to the South. Similar constructions occur in many parts of Great Britain and on the neighboring continental coasts, and the attempts to date them by their orientation to the rising sun leads to such contradictions that we must reject the idea of their being Sun temples and adopt the most natural explanation of them as sepulchral monuments. They all show close analogies with the circle of shaft graves at Mycenae. The race course connected with the circle of stones at Stonehenge is another proof of this view, for chariot races were always held in honor of the dead. The giant stone in the middle of the circle is rather a seat for the returning soul than a throne for a god. All grave stelae, tumuli, pyramids, etc., were originally designed for

the use of the soul of the departed, that it might see from a height the rising and setting sun, etc. So in the *Persians*, the spirit of Darius appears on the apex of his tomb. Further, the name and the traditions concerning the home of the Hyperboreans point to the mild climate of the south of England, and the stories of their embassies to Dodona, Delphi, and Delos, and of their friendly relations with the Athenians, strengthen these evidences of intercourse between northwestern Europe and the Mediterranean and between Greece and Central Europe. (*Arch. Anz.* 1912, cols. 40-43.)

AFRICA

The Cult of Mithra in Carthage.—In *R. Hist. Rel.* LXV, 1912, pp. 1-15 (4 figs.), P. BERGER publishes a Phoenician inscription from Carthage antedating the Roman conquest, in which he finds a reference to the god Mithra. He argues that the cult of Mithra was introduced into Carthage directly from Asia Minor, and not by the Romans.

The Military Frontier of Tripolis in Roman Times.—In the *Mémoires de l'Académie des Inscriptions et Belles-Lettres*, XXXIX, 1912, pp. 77-109 (3 pls.; 10 figs.), R. CAGNAT discusses the military frontier of Roman Tripolis. The frontier was protected, from Leptis Magna to Turrus Tامليني, by three kinds of defensive works: (1) large camps, strongly fortified, and connected by ports of less importance; (2) in the valleys and points of passage, by a ditch and a wall with towers; (3) toward the south, along the caravan routes, *bordjs*, occupied by garrisons, chiefly of cavalry. Moreover, behind the *limes* was a certain number of forts at important points.

EARLY CHRISTIAN, BYZANTINE, AND MEDIAEVAL ART

GENERAL AND MISCELLANEOUS

A Great Picture of the Time of Justinian.—The sixth-century (A.D.) picture of the Universe which was in the Winter Baths at Gaza, and the highly colored poetic description of it written by Johannes of Gaza, were discussed at the May and June (1911) meetings of the Berlin Archaeological Society by P. Friedländer and A. Trendelenburg. The latter gave a German metrical translation of part of the introduction of the poem, which is in a very difficult Greek style, and concluded from passages in it that the picture was on a vault or dome and very probably was a mosaic with gold ground. A Latin cross with the long arm proportionately longer than usual, and with the ends of the arms widened, was the most prominent feature in the design as a whole, which included innumerable details of natural powers and elements. A symbolic pair of sisters, of unequal size, appeared above and corresponded to the uneven proportions of the arms. (*Arch. Anz.* 1912, cols. 46-52.)

Byzantine Art.—In Vol. XV of the *Bulletin* of the Russian Archaeological Institute at Constantinople (*Izvestija russkavo archeologicheskavo Instituta w Konstantinopolje*. Vol. XV, Sophia, 1911), T. SCHMIT publishes (with colored plates) three articles on Byzantine art. They are, pp. 31-72 on the iconography of the annunciation; pp. 73-91 on a peculiarity in the oldest representations of the baptism of Christ; pp. 206-258 on the church and the mosaics of Panagia Angeloktistos.

A Fragment of Byzantine Pottery.—In *R. Arch.* XVIII, 1911, pp. 450-451 (fig., wrong side up), A. VAN GENNEP publishes a fragment of pottery found near Bougie. He thinks it is Byzantine and recognizes in its decoration both human and vegetable forms.

A Tablet from the Meteoron Monastery.—In *Ἀρχ. Ἐφ.* 1911, pp. 177-185 (18 figs.), N. A. BEY publishes, with historical commentary, a painted tablet, which he found in the Meteoron monastery, dedicated by Angelica Palaiologina, who was queen of Jannina in the latter part of the fourteenth century. In the central panel, which is surrounded by a border with the figures of fourteen saints, a portrait figure of the queen worships the Virgin and infant Jesus. All the figures are identified by their names.

The Origin of Perspective.—In *Mél. Arch. Hist.* XXXI, 1911, pp. 393-434, W. DE GRUNSEIN sketches the origin and development of perspective, describes the characteristics of "*la perspective barbare*" common to Oriental antiquity and the early Middle Ages, and discusses the effect of the discovery of the laws of true perspective at the Renaissance.

FRANCE

The Ambulatory of St. Martin at Tours.—In *Mh. f. Kunstw.* V, 1912, pp. 134-149, E. GALL begins a series of 'Studies in the History of the Ambulatory' with an inquiry into the date of the church of St. Martin at Tours, which, though now destroyed, is known to have possessed a well-developed apsidal aisle. He finds from documentary evidence that the basilica of Perpetuus, which was built towards the end of the fifth century lasted without much change till the end of the tenth. The apsidal aisle dates from the reconstruction of Herveus and the beginning of the eleventh century.

The Tomb of St. Ronan.—In *Mh. f. Kunstw.* V, 1912, pp. 111-128, K. ESCHER points out that the tomb of St. Ronan shows many affinities with the tomb of Philippe Pot in the Louvre, the angel caryatids carrying coats of arms having a certain resemblance to the mourners similarly equipped in the case of the Louvre monument. The motif of angel caryatids, however, is more probably derived from Italy, and the writer is disposed to regard the tomb as an early example of the Italian movement in French sculpture. The tomb seems to have been set up by Anne of Brittany in its present situation in the church of Lochronan (Finistère) about 1512-1514.

A Carolingian Inscription.—In *C. R. Acad. Insc.* 1911, pp. 588-595 (fig.), L.-H. LABANDE publishes a fragmentary Latin inscription in raised letters on three sides of a slab decorated with an interlacing design. The stone came from Carpentras and was at some time sawn in two. It is now 98 cm. long and 40 cm. high. The letters preserved read *cavit fieri ista opera indignos peccat[or]*. It dates from the second half of the eighth century, a period from which few inscriptions are preserved.

Sculptures of the Church at Rampillon.—In *R. Arch.* XIX, 1912, pp. 313-318 (7 figs.), CHARLES OULMONT calls attention to the remarkable sculptures of the church at Rampillon (Seine-et-Marne), of the end of the thirteenth century. Especially interesting and beautiful are the masks in the spandrels and the figures under the arches below the twelve apostles at the sides of the portal.

GERMANY

Interpretation of a Fresco in Nürnberg.—The curious fresco in the Moritzkapelle in Nürnberg, representing in four scenes a maiden receiving a message, and the birth, baptism, and education of a royal youth are explained by H. KEHRER in *Mh. f. Kunstw.* V, 1912, pp. 65-67, as relating to the betrothal of the Emperor Karl IV and Anna of Schweidnitz, and to the birth of their son, Wenzel IV of Bohemia. The appositeness of the fresco lies in the circumstance that Wenzel was born in Nürnberg.

GREAT BRITAIN

Antiquities of St. Andrews and the Ruthwell Cross.—The church of St. Rule at St. Andrews in Scotland is assigned by G. T. RIVOIRA in *Burl. Mag.* XXI, 1912, pp. 15-25, to the twelfth century. He finds that while there is evidence of two periods of building in the edifice, they nevertheless maintain an architectural unity and are both to be assigned to the episcopate of Robert (*ca.* 1130). Of the two carved crosses in the Cathedral Museum, the writer attributes the one with the interlacing ornament to a period no earlier than the eighth century, and scouts the derivation of such ornament from the illuminated manuscripts, believing that an Italian origin is to be sought for it. The other cross with foliate ornament is no earlier than the Conquest, and carries with it to this later date the Bewcastle and Ruthwell crosses. W. R. LETHABY, *ibid.* pp. 145-146, maintains the old seventh-century date of the Ruthwell Cross, basing his objections to Rivoira's late date on the palaeography of the inscription, the antiquity of the "Dream of the Holy Rood," part of which poem is inscribed on the Cross, the fact that tall crosses like this were set up in England in the seventh century, and the style of the sculptures. He also argues for the Coptic derivation of its ornamental motifs.

RENAISSANCE ART

GENERAL AND MISCELLANEOUS

The Tapestries of the Seven Deadly Sins.—The eight pieces known as the "tapestries of the seven deadly sins" are described and discussed in *Burl. Mag.* XX, 1912, pp. 210-222 and 277-289 by D. T. B. WOOD. He regards the pieces as homogeneous in character, even if they do not belong to the same set originally. Two are in the treasury of Burgos cathedral, three in the Château de Haar in Belgium, one in the Louvre, while the present ownership of the rest is unknown. The subject-matter is mediaeval in character, being the cycle of the Redemption as it appears in the Miracle Plays, with the addition of the Conflict of the Virtues and Vices. The authorship is unknown, Destree having attributed them to a Maitre Philippe whom he identifies with a figure in the Descent from the Cross in Brussels, who wears the inscription "Philiep" embroidered on his robe. The style of the Brussels tapestry is manifestly allied to that of the "Seven Deadly Sins." Michiels, on the other hand, names Mabuse as the author of their cartoons, on what appears to Wood to be insufficient evidence. Most of the article is devoted to tracing the origin of the motifs in the plays of the fifteenth century, particularly the English Moralities.

Lost Drawings assigned to Raphael.—In *Burl. Mag.* XX, 1912, pp. 294–301, O. FISCHER announces his forthcoming publication of Raphael's drawings in ten volumes, and bespeaks the aid of students in determining the present whereabouts of twenty-four drawings ascribed to Raphael in various catalogues, but now of unknown location. The drawings are reproduced in plates accompanying the article.

The Liechtenstein Leonardo.—In *Burl. Mag.* XX, 1912, pp. 345–346, HERBERT COOK reviews the evidence for the identification of the original of the "Portrait of a Young Lady" in the Liechtenstein collection with Ginevra dei Benci, and its attribution to Leonardo, and accepts both conclusions without reserve. He also adduces a portrait by Lorenzo di Credi in the Forli gallery, which he believes to be the likeness of the same lady.

A Legend of St. Mamas.—In the first of his articles on the Exhibition of Early Venetian Pictures at the Burlington Fine Arts Club, ROGER FRY describes a series of panels, five in number, of which two were exhibited by their owner Mr. J. Annan Bryce. Two others are in the Correr Museum, and the fifth in the Museo Civico at Verona. They represent episodes in the life of St. Mamas of Caesarea, and are ascribed by the writer to Michele Giambono. A discussion of the legend of St. Mamas accompanies the article. (*Burl. Mag.* XX, 1912, pp. 346–359.) Other articles on the Exhibition by the same writer are *ibid.* XXI, 1912, pp. 47–50, and 95–101, the last with an additional note by T. BORENIUS.

The Real Name of Giovanni da Bologna.—In *R. Arch.* XIX, 1912, pp. 84–100 (2 figs.), A. DUBRULLE shows by documentary evidence that the real name of the sculptor from Douai, who has been called Giovanni Bologna (or da Bologna), was Jean (Jehan) de Boulogne (Boullongne). The family came to Douai from Boulogne. The Italian city did not give the sculptor the name of Bologna, which he adopted as a convenient form of his French name for use in Italy. Various details of his life are discussed.

ITALY

Interpretation of a Fresco.—In *Boll. Arte*, 1912, pp. 41–55 and 94–114, G. B. PICOTTI takes issue with the interpretations hitherto proposed for the curious fourteenth-century fresco in the cloister of the church of S. Francesco at Gubbio (Fig. 5). The interesting feature of the painting is the group of angels carrying a church-like house, wherein Faloci saw a reference to the translation of the Santa Casa of Loreto. Others related the fresco to the legend of the Porziuncola at Assisi. Picotti, pointing out that other frescoes of the church depicted the story of St. Francis and his follower Giacomello Spada, believes that the picture represents the angels offering the house of Spada, which was later transformed into a church, to the Virgin, who appears in the centre of the fresco in the *mandorla* supported by angels.

Notes on Italian Medals.—In *Burl. Mag.* XX, 1912, pp. 200–208, G. F. HILL writes concerning unpublished or little-known medals in the British Museum or elsewhere. Apropos of a series of impressions on leather in the Vatican library, made from a medal of Federigo, Duke of Urbino, by Enzola, the writer gives a brief account of the use of medals in book-binding. The other medals discussed are: a Maximilian I by Gian Marco Cavalli; a

portrait of his son by Antonio della Torre; Lelio Torelli by Francesco da Sangallo; a portrait of Bernardo Nasi; and a medal commemorating a restoration of a tower in Ancona signed by Giovanni Battista Capocaccia



FIGURE 5. — FRESKO IN GUBBIO.

and establishing the artist's true baptismal name, as against the "Mario" given him by Vasari.

The Tombs of Lorenzo Cibo and Eleonora Malaspina at Massa. — *Rass. d'Arte*, XI, 1912, pp. 184-192, contains a discussion of the tombs of Lorenzo Cibo and Eleonora Malaspina in the church of S. Francesco, by

U. GIAMPAOLI. He finds that the reliefs which now are inserted in the wall above the tomb of Lorenzo Cibo belonged originally to the tomb of Eleonora. The former monument is the work of Moschino di Settignano; the latter is to be assigned to Aprili.

Pictures by Sassetta.—In *Rass. d'Arte*, XI, 1911, pp. 202–203, MARY L. BERENSON publishes a group of pictures relating to the legend of St. Anthony which are all to be attributed to Sassetta. These are: a picture in the Ourousoff collection representing the solitary figure of the saint in a landscape, which is dated at the end of the Trecento by Suida in his *Oesterreichische Kunstschatze* (I. Jahrg. 8. Heft, Taf. LVIII), but belongs rather to Sassetta; two “stories” from the life of St. Anthony in the Jarves collection at New Haven; and a “St Anthony assailed by Demons” in the Galleria Civica at Siena.

Giacomo Antonio Spiciotti.—The only existing work of Giacomo Antonio Spiciotti, a Madonna with Saints, was recently added to the Parma gallery. L. TESTI contributes to *Rass. d'Arte*, XII, 1912, pp. 5–8, a résumé of the facts that are known concerning this painter.

Minor Lombard Artists of the Quattrocento.—Under the title ‘Minor Lombard Artists of the Quattrocento’ F. MALAGUZZI VALERI contributes a series of notes to *Rass. d'Arte*, XI, 1911, pp. 193–201, on Zanetto Bugati, Bonifacio and Benedetto Bembo, Gottardo Scotti, Leonardo Videlenghi, Donato da Montorfano, and Agostino da Vaprio.

Gherardo Starnina.—In *Abh. Sächs. Ges.* XXIX, 1912, No. V (37 pp.; 7 pls.; fig.), AUGUST SCHMARSSOW reconstructs in a measure the artistic personality of Gherardo di Jacopo, called lo Starnina, a pupil of Antonio Veneziano and precursor of Masaccio. His frescoes in the Capella Castellani (Santa Croce) at Florence are described in detail. Two panels (in tempera) in the Old Pinakothek at Munich (St. Nicholas and St. Julian) are evidently his work. He was an artist of power and originality, a pioneer of realism. He was in Spain (Valencia) at least from 1398 to 1401, but the altarpiece in the Museo del Carmen at Valencia, formerly ascribed to Fra Angelico, is not his work. The publication of the paintings in the Capilla de San Blas near the cathedral at Toledo and of the altarpiece of the chapel of St. Eugene in the cathedral itself (originally the work of a Tuscan painter between 1370 and 1410) is urged.

FRANCE

Pictures from the Gallery of the Regent.—In *R. Arch.* XIX, 1912, pp. 130–136, CASIMIR STRYIENSKI gives a list (with attributions derived from the *Description des Tableaux du Palais Royal*, Paris, 1727) of pictures formerly in the gallery of the Régent d'Orléans, the present whereabouts of which is unknown. The list includes many works ascribed to the most important painters of Italy, Spain, France, Germany, Flanders, and Holland.

Jehan Fouquet and the “Antiquité des Romains.”—In *R. Arch.* XIX, 1912, pp. 116–129 (6 figs.), F. DE MÉLY shows that the enamel medallion in the Louvre with the name of Fouquet cannot be a work of that artist, as the technique employed was not known until after his death. Mr. H. Yates Thompson, of London, has had four miniatures in his collection reproduced by three-color process (*Jehan Fouquet, etc. Four Photographic Facsimiles by Three-colour Process*, London, 1903, privately printed)

from a book on *l'Antiquité des Romains*. In one of these, representing the coronation of Alexander, are letters which can be read only *Jehan* and *F. Foucquet* was well known and appreciated during his lifetime, whatever recent writers have said to the contrary. The advantages of the three-color process and of carefully made photographs are emphasized.

Robert Campin, the Maître de Flémalle. — In *R. Arch.* XVIII, 1911, p. 466, S. R(EINACH) gives briefly the facts relating to Robert Campin, as made probable by MM. Houtart and Hulin (cf. *Bull. de l'Acad. de Belgique*, 1911). Campin was born at Valenciennes about 1375, settled at Tournai about 1406, painted in the studio of the Van Eycks when they were painting for Duke William of Bavaria-Hainaut, married a woman named Elizabeth, from Stockhem (near Maaseyck). His Descent from the Cross, fragments of which are at Frankfort, was painted before 1430. Jacques Daret, his pupil, was already a painter of merit in 1434.

A Portrait of Michelle of France. — In *R. Arch.* XIX, 1912, pp. 406-412 (fig.), HERMANN NASSE discusses a portrait in the collection of Baron v. Bissing in Munich. On the frame is the inscription "Michelle de France, Fille de Charles VI Roy de France et d'Isabeau de Bavière. Mariée en juin 1409 à Philippe le Bon Duc de Bourgogne." The picture comes from the collection of Mrs. George Salting in London. It is to be attributed to the atelier of Henri Bellechose, influenced by the Flemish school.

The School of Nice. — The Exposition of Local Painting which was opened at Nice in March has called forth more than one article on the art of Nice and its environs, the most extensive being that of L. H. LABANDE, *Gaz. B.-A.* IV-VII, 1912, pp. 279-297, and 379-416 (to be continued). After sketching the general *patrimoine artistique* of the region, the writer discusses particularly the works of Jean Miraillet, Jacques de Carolis, Jacques Durand, and Louis Bréa.

BELGIUM AND HOLLAND

Pseudo-Rembrandts. — The Old Woman plucking a Fowl in the Lavaigneux collection belongs to the class of pictures painted by followers of Rembrandt and retouched by the master, according to A. BREDIUS (*Burl. Mag.* XXI, 1912, pp. 164-169). The unknown pupil in this case was the author of the figure of the woman, while Rembrandt is responsible for the finely painted fowl. Another picture hitherto attributed to Rembrandt is the Portrait of an Old Man in the Helger-Zillesen collection at Elberfeld. This is shown by comparison with authenticated works to be from the hand of a pupil, Abraham Van Dyck.

Perspective in the Art of the Netherlands. — K. DOEHLEMANN contributes to *Rep. f. K.* XXXV, 1912, pp. 500-535, the last of his articles on the development of perspective in the early art of the Netherlands. He finds that the Van Eycks obtained good results through their careful observation, but their perspective is the result of empirical methods. They knew, however, how to manage chiaroscuro with success. Roger van der Weyden, on the other hand, failed in his space composition; an empiricist like the Van Eycks, he had little knowledge of light and shade. The depth of the Maître de Flémalle is gained by plastic means. Dirk Bouts is the first to use well-defined rules in the management of perspective, but he has no rival

in this respect until Hans Vredeman in the sixteenth century. Memling is uncertain in perspective composition, and it is doubtful if he had any rules to guide him. His effects are rather obtained by arrangement of figures and chiaroscuro. Gerhard David seems to confine his application of perspective laws to the construction of a tiled pavement. Hans Vredeman is the first to assimilate the teachings of the Italians with reference to perspective.

The Painter of the Portrait of Elizabeth Bas. — In *Burl. Mag.* XX, 1912, pp. 330-341, A. BREDIUS gives a careful analysis of the technical peculiarities of the portrait of Elizabeth Bas in the Rijksmuseum at Amsterdam, in support of his contention that the picture is not a work of Rembrandt's, but is to be attributed to Bol.

The Portraits of Princes on the Ghent Altarpiece. — In *R. Arch.* XVIII, 1911, pp. 401-418 (11 figs.), J. SIX discusses the portraits on the Ghent altarpiece by the brothers Van Eyck. The person whom Reinach (*R. Arch.* XVI, 1910, pp. 369 ff.; *A.J.A.* XV, 1911, p. 581) identifies with John VI Palaeologus is probably his father, Manuel II Palaeologus. Another portrait is that of Philip the Bold, of Burgundy, not the Duc de Berry. Further identifications are at least doubtful. The history of the Van Eycks is discussed.

GERMANY

Dürer's Periods as an Engraver. — In his earliest work Dürer stands from the technical point of view between Schongauer and the Hausbuchmeister, handling his stylus more freely and less correctly than the former, but lacking the pictorial fineness of the Hausbuchmeister. He was the first artist, however, to appreciate the possibilities and peculiarities of engraving as opposed to painting. The early works show a nearly pure linear contour-modelling in the figures, with little use of shading, while the background maintains an even tone without the application of chiaroscuro. His second period shows a great advance in that the treatment of light and shade becomes broader, and the landscape is improved with the gradations of tones and the consequent introduction of true distance. The figures in this period seem relieved on the background. In his third and best period, in which we find his three masterpieces, the Knight, Death, and the Devil, the Melancholy, and the St. Jerome, differs primarily in incorporating the figures into the background, and the use thereof in rendering mood. (F. VON SCHUBERT-SOLDERN, *Mh. f. Kunstw.* V, 1912, pp. 1-14.)

An Explanation of Dürer's Hercules. — In *Rep. f. K.* XXXV, 1912, pp. 478-480, H. KLAIBER solves the enigma of this wood-cut by relating the representation to the myth of Iole. The cut represents the vengeance which Hercules is executing upon Eurytus, the bows carried by the hero and the slain king referring to the archery match won by Hercules over Eurytus. The weeping woman would then be Iole herself, while the other female figure may be interpreted as a Tristitia or the like, as an allegory representing the sorrow of Iole over her father's death.

A Nürnberg Goldsmith Family. — In *Rep. f. K.* XXXV, 1912, pp. 481-499, A. GÜMBEL publishes documentary evidence to show that the name Schnitzer which occurs in the archives of Nürnberg in the middle of the fifteenth century as the appellation of a goldsmith and his sons is identical

with Schesslitzer. Both names vary in spelling, but evidently refer to the same family.

Hans Wild. — A survey of the *oeuvre* of the glass painter, Hans Wild of Ulm is given by P. FRANKI in *Jb. Preuss. Kunsts.* 1912, pp. 31-78. He was the first of the northern artists in his field to introduce perspective in his compositions, leaving the "tapestry style" and ushering in the Renaissance. Only one of his glass paintings is signed, the Kramerfenster in Ulm, but his characteristics are so easily recognized that the establishment of his *oeuvre* is comparatively easy. His earliest work is found in the baptismal chapel of the Stiftskirche at Urach in Württemberg, dating from 1471.

The Ulmer Apostelmeister. — The same hand which carved the two figures of the apostles on the west portal of Ulm cathedral evidently did the reliefs of the tomb of the Archbishop Friedrich von Saarwerden in the cathedral at Köln. Both works are Sluteresque to a degree, and as the Ulm figures are obviously the earlier (the tomb dating *ca.* 1415), one is able to trace the course of realism from the Burgundian school through the upper Rhenish school of Ulm to Köln, just as the same influence entered into the painting of Köln through the Swabian Stephan Lochner (G. DEHIO, *Mh. f. Kunstw.* V, 1912, pp. 59-60).

AUSTRIA-HUNGARY

The Gothic Church at Almakerék. — In *Dolgozatok az Erdélyi Nemzeti Múzeum*, III, 1912, pp. 128-184 (36 figs.), V. ROTH describes the late Gothic church built at Almakerék, Hungary, in the reign of Louis the Great (1342-1382). The paintings are especially interesting. These fall into three main groups and date from before 1405: (1) Fifteen paintings illustrating the life of Christ. (2) Mary in a royal mantle, Peter and Paul, the four Evangelists, various saints, and the legend of Saint George. (3) An historical group probably connected with the Apa family. On the altar, which dates from the fifteenth century, is the Madonna enthroned; and on each side two figures, one above the other, representing Saints Catherine, Barbara, Agatha, and Margaret. On the left wing is the Nativity, and the Adoration of the Magi; on the right the Death of Mary, and the Assumption. On the back of the movable wings are the Annunciation, Mary and Elizabeth, the Circumcision, and the Presentation in the Temple. On the immovable wings are Saints Michael and George. In the middle of the predella, which is of later date, is the Resurrection. The greater part of the work seems to be that of a South German artist.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

Age of Terrace Gravels. — In *Rec. Past*, X, 1911, pp. 332-333, G. F. WRIGHT treats briefly of 'Computing the Age of Terrace Gravels,' such as those of the river Styx in Medina County, Ohio, and those in the valley of the Killbuck, near Wooster, Ohio. These are probably "esker terraces," and we do not need to assign to them, in consideration of such formation, the immense antiquity assumed by some authorities. Dr. Wright thinks

that "all the earlier calculations drawn from the erosion of post-glacial terraces must be revised in view of the facts now known concerning the possible manner of their formation."

Aboriginal Remains in the Champlain Valley.—In *Am. Anthr.* N. S. XIV, 1912, pp. 72–80 (5 pls.), G. H. PERKINS has a third paper on aboriginal remains in the Champlain Valley, treating of hammer-stones and pestles, boiling stones, mortars, sinkers, sinew stones, objects of slate (knives, points, etc.). The meeting in this valley of Algonkians and Iroquois, and "the occupancy of now one site and then another by families of one or the other of these peoples," account for some of "the considerable variety in the stone and other objects found." The Champlain Valley pestles differ in form, etc., from those of the Mississippi Valley and farther west. He does not think the late knives "convincing evidence" of an Eskimo migration or visit.

The Mound Builders.—In *Rec. Past*, X, 1911, pp. 335–338 (fig.), W. B. NICKERSON has a brief article on 'The Mound Builders: A Plea for the Conservation of the Antiquities of the Central and Southern States.' In addition to a general account of work accomplished there is given a chart of a typical group of mounds, situated on the right bank of Rock River, below the confluence of Leaf River, three miles north of Oregon, Ill. As evidence of progress in the attitude toward Indian remains, the author recalls the fact that, "in one town, . . . it was, in 1876, a Sabbath pastime to open Indian mounds in the forenoon and in the afternoon to shoot the skulls thus obtained full of holes as a test of marksmanship."

Cliff-dwellers of Los Frijoles.—In *Harper's Magazine*, CXXIV, 1912, pp. 291–301 (10 figs.), E. HUNTINGTON treats of the remains of the cliff-dwellers of the Cañon de los Frijoles, describing briefly houses, pictographs, pottery, evolution of decorative art (bird symbol), etc. The author seems to magnify the importance of seeming differences of culture and is of opinion that the cliff-dwellers were a race altogether different from the modern Indians.

Archaeology of the Missouri Valley.—In *Am. Anthr.* N. S. XIII, 1911, pp. 585–588 (fig.), G. F. WILL calls attention to a new feature in the archaeology of the Missouri Valley in connection with the mounds on Apple Creek, North Dakota, of which a more careful exploration has been made since mention in the *American Anthropologist* in 1910. These mounds, characterized by lack of artifacts in the earth of which they are composed and by difference in general orientation from the usual village-site mounds, "seem to be a new feature in the archaeology of the Missouri River region, or at least of that part of it in the vicinity of Bismark, N. D." They are as old as, or perhaps older than, the village-sites of the region.

Winnebago Archaeology.—In *Am. Anthr.* N. S. XIII, 1911, pp. 517–538, PAUL RADIN discusses some aspects of Winnebago archaeology, treating in particular of the nature, signification, and distribution of the mounds, and of the Indian tribes, past and present, inhabiting this region; also the use of copper by the Indians, the problem of flint arrow-heads, etc. As to the mounds, Dr. Radin concludes,—"the mounds,—linear, conical and effigy—are not mute evidences of a past mound-building epoch, but living prosaic structures, erected for purposes which are still remembered by the Winnebago of this generation." The flint arrow-heads and copper

implements are probably due to the Algonkian contemporaries or predecessors of the Winnebago.

"The Vancouver Man." — In *Rec. Past.* X, 1911, pp. 339-341 (2 figs.), H. J. COOK describes and figures a skull, in the parietal of which is embedded a stone arrow-head. This skull, obtained from J. H. Cook in 1909, "was found several years ago by H. F. Argyle near Vancouver, B. C., in the dense forest, lying almost exposed to the eye. Evidently it had been buried in a rock mound." The skull of the "Vancouver man," the author thinks, with little justification, however, "is that belonging to a man of a race earlier than our modern coast Indians."

The Aztec Calendar. — In *Bol. Mus. Nac. de Arqueol.* I, 1911, pp. 97-99 (4 pl.), P. GONZALEZ discusses briefly the Aztec calendar or "stone of the sun," set up by Axacayatl in 1481.

Pre-Hispanic Remains at Zavaleta. — In *Bol. Mus. Nac. de Arqueol.* I, 1911, pp. 83-85 (4 figs.), M. GAMIO has some notes on a petroglyph, burial-urns with human bones, etc., found on the Hacienda de Zavaleta district of Chalco, State of Mexico.

Genesis of the Maya Arch. — In *Am. Anthr.* N. S. XIII, 1911, pp. 501-516 (pl.; 16 figs.); E. H. THOMPSON discusses, with some detail, the origin and development of the Maya arch. Rejecting the prevalent opinion that "the entire plan of the ancient stone structures of Yucatan was developed elsewhere," and that, "in some unknown region the evolution of this structural type had been carried out until perfected," the author, from his long experience in Central America, finds what seems to him "conclusive evidence of a very typical process of development from the *ná*, or the native palm-thatched hut of Yucatan." According to this view, "the *ná* is the germ unit of the edifice chambers, and the edifice simply a collection of *nas* expressed in stone and mortar." This interesting explanation is illustrated by reference to the structures themselves. Mr. Thompson's theory adds another proof of the native origin of American Indian art.

Old Mexican Symbols. — In *Z. Ethn.* XLIII, 1911, pp. 922-929, HUGO KUNIKE calls attention to some fundamental resemblances in the various old Mexican symbols for sun, moon, and stars, especially in those of the two last.

Quiché Calendar of Guatemala. — In *Anthropos*, VI, 1911, pp. 402-410, W. LEHMANN writes of the calendar of the Quiché Indians of Guatemala, giving on pages 403-407 the Spanish text of Cap. 36 of the unpublished manuscript history of Chiapas and Guatemala by P. F. Ximinez, which deals with this subject.

The Fish-symbol. — In *Anthropos*, VII, 1912, pp. 206-229 (3 figs.), H. KUNIKE has an interesting article on the fish as a symbol of fertility among the forest Indians of South America, covering all aspects of the question and dealing with fish-dances, fish-ornaments, etc.; the fish in art, religion, mythology, and folk-lore. Worth noting is Kunike's opinion that the *uluri*, or three-cornered bark apron of the Bakairi women, is really a folded *mereshu*-fish. The fish-form of the "bull-roarer" is also referred to. Fish-amulets are numerous.

Stone Collars and Three-pointed Stones of the West Indies. — In *Am. Anthr.* N. S. XIII, 1911, pp. 489-493 (pl.; 2 figs.), H. J. BROWNE treats briefly of the stone collars and three-pointed stones of the West

Indies (Porto Rico and Haiti), on the basis of a careful examination of the splendid collection in the U. S. National Museum at Washington. The author concludes that "the slender ovate rings represent the female sex-organ expanded as at the moment of parturition." The so-called "elbow-rings" are "the panels of rings, broken perhaps in the process of manufacture, and then finished as fragments." Of the three-pointed idols, one type represents "the protuberant abdomen of the pregnant female," with at one end a head or a breech presentation of the child; another type is marked by a ruptured hymen. Mr. Browne thinks these stone objects may have had ceremonial use in connection with marriage and maidenhood and in religious ceremonials connected with pregnancy, etc. The stone rings may have been used as "a sort of primitive delivery chair," and the three-pointed stones may have been placed on the abdomens of pregnant women. The author thinks that the Arawak makers of these stone objects may have "utilized the superior hardness of native iron, whether with an edge or not," and also that "they knew how to use a primitive blow-pipe and could produce a blue flame to aid in boring holes in stone."

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A Handbook of Greek Archaeology

BY

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AND

JAMES R. WHEELER, PH.D.

Professor of Greek Archaeology and Art, Columbia University

\$2.00

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